

R E P O R T R E S U M E S

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AN INVESTIGATION OF THE PROFESSIONAL PREPARATION AND
PERFORMANCE OF STUDENTS GRADUATING FROM TEACHER TRAINING.

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AN INVESTIGATION WAS MADE OF THE PREPARATION AND
PERFORMANCE OF 880 PUBLIC SCHOOL TEACHERS IN THE STATE OF
INDIANA. THIS IS THE TOTAL NUMBER OF TEACHERS WHO RECEIVED
THE BACHELOR'S DEGREE FROM ANY OF THE 24 INDIANA COLLEGES OR
UNIVERSITIES WITH STANDARD ACCREDITATION FOR TEACHER
EDUCATION IN THE CALENDAR YEAR 1954 AND WHO WERE TEACHING IN
INDIANA PUBLIC SCHOOLS IN THE SCHOOL YEAR 1956-57. THE
PURPOSE OF THE INVESTIGATION WAS TO DETERMINE WHETHER THE
GRADUATES OF DIFFERENT TYPES OF TEACHER-TRAINING INSTITUTIONS
HAVE A DIFFERENT PREPARATION FOR TEACHING AND ARE DIFFERENT
IN TERMS OF PROFESSIONAL PERFORMANCE. THREE KINDS OF DATA
WERE CONSIDERED IN THE INVESTIGATION--(1) BACKGROUND DATA
USED TO DESCRIBE THE SAMPLE, (2) DATA REGARDING TEACHERS'
ACADEMIC PREPARATION, AND (3) DATA REGARDING TEACHERS'
PROFESSIONAL PERFORMANCE. IT WAS CONCLUDED THAT GRADUATES OF
DIFFERENT SIZES AND TYPES OF TEACHER-TRAINING INSTITUTIONS
DIFFERED IN THEIR PREPARATION FOR TEACHING, AND THEY DIFFERED
IN PROFESSIONAL PERFORMANCE, AS REFLECTED BY SCORES ON THE
MINNESOTA TEACHER ATTITUDE INVENTORY AND BY THEIR PRINCIPALS'
RATINGS OF OVERALL TEACHER EFFECTIVENESS. THEY ALSO DIFFERED
ON CERTAIN BACKGROUND DIMENSIONS PRIOR TO ENTERING THE
INSTITUTIONS FROM WHICH THEY WERE GRADUATED. THE PREPARATION
AND BACKGROUND DIFFERENCES WERE NOT, HOWEVER, SUFFICIENTLY
SYSTEMATIC, NOR WERE THE TWO PERFORMANCE VARIABLES
SUFFICIENTLY INCLUSIVE TO WARRANT ANY CONCLUSION REGARDING
WHICH SIZE OR TYPE OF TEACHER-TRAINING INSTITUTION IS
PRODUCING BETTER TEACHERS. (GC)

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039

RESEARCH REPORT NO. 1

**Preparation and Performance of Indiana
Teacher-Training Graduates**

**Lloyd S. Standlee
W. James Popham
Efthimios Mavrides**

**SCHOOL OF EDUCATION
INDIANA UNIVERSITY**

Prepared under Contract 6400

U.S. Office of Education

Department of Health, Education, and Welfare

Lloyd S. Standlee, Principal Investigator

MARCH 1958

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The information necessary for the preparation of the report was obtained from the State Department of Public Instruction. This data is compiled each year by the state superintendent and is the only source in that particular field. The procedure for preparing the report was as follows: The state superintendent of public instruction has had graduated the teachers' ratings to the state superintendent. It was found that graduates could not be accurately located and that their graduating institution.

Preparation and Performance of Indiana

Teacher-Training Graduates

INTRODUCTION

Indiana, as other states, has a standard set of requirements for the licensing of teachers. It would seem logical to assume that the graduates of the various teacher-training institutions, by meeting these licensing requirements, would be equally prepared to teach. Yet many would not agree with this assumption. Some would claim that there is considerable latitude of course work in meeting teacher-licensing requirements. Others, being more specific, would claim that the graduates of a large university are better prepared, because of wider course offerings, better facilities, and better faculty; while still others would claim that the graduates of a small teachers college, though having fewer course offerings and facilities, and less renowned faculty, are better prepared, because of more individual attention, etc.

PURPOSE

The purpose of the present investigation was to determine (1) whether graduates of different sizes and types of teacher-training institutions actually do have a different preparation for teaching and (2) whether there are differences in the professional performance of graduates of different sizes and types of teacher-training institutions.

PROCEDURE

Sample. The sample used in the present investigation consisted of 880 public school teachers who were 1954 graduates of 24 Indiana teacher-training institutions with standard accreditation for teacher education. This number (880) is the total population of 1954 graduates (bachelor's degree) of all Indiana colleges with standard accreditation for teacher education, who were teaching in Indiana public schools in the school year 1956-1957.

The information necessary for determination of the sample was taken from Form 35A, State Department of Public Instruction. This form is completed each year by the local school superintendent and lists every teacher in that particular school system. The procedure involved checking Form 35A for every teacher in the state to determine whether he had graduated from an Indiana college in the calendar year 1954. (It was found that graduates could not be accurately located from records of their graduating institution.)

2
Measures. Three kinds of data were considered in the investigation: (1) background data used to describe the sample, (2) data regarding teachers' academic preparation, and (3) data regarding teachers' professional performance.

The background data used to describe the sample include: sex; age; marital status; religious affiliation; parental occupation and income; teaching level, salary, and experience; school and community size; and subjects taught. The data were taken from State Department records and from a questionnaire used in another investigation in the present series.¹

The data regarding teachers' academic preparation include: high school credits and undergraduate credit hours, credit points, and credit point ratio for various subject-matter areas. The data were taken from each subject's college transcript.

The data regarding teachers' professional performance include: Minnesota Teacher Attitude Inventory (MTAI) scores and principals' ratings of over-all teacher effectiveness. The MTAI is claimed by its authors² to discriminate between those teachers who do, and those who do not have a good rapport with their pupils. The principal's rating form, which was constructed locally, was designed to assess a teacher's "over-all teacher effectiveness."

In an attempt to at least partially avoid the usual clustering of ratings at the high end of a rating scale, the scale was actually called a "Teacher Ranking Form." The principal was instructed to compare the teacher listed on the form with others with whom he had worked, and to place that teacher in the appropriate rank-order position. Nevertheless, it is still a rating form.³

The data-gathering instruments were mailed in the spring of 1957. Two separate follow-up letters, plus data forms, were sent to non-respondents.⁴ The percent of returns was quite satisfactory—83.9 per cent for the MTAI and 95.1 per cent for the principal's rating. Transcripts were obtained from the graduating institution for all subjects in the sample.

Analyses. In analyzing the data, teacher-training institutions were grouped into four categories: large public institutions (19,874 to 13,776 students), small public institutions (4,362 to 2,841 students), large private institutions (3,733 to 1,974 students), and small private

¹Popham, W. J., Out-of-School Activities of Teachers as Related to an Index of their Professional Performance. Research Report No. 2, School of Education, Indiana University, Contract 6400, U. S. Office of Education, Department of Health, Education, and Welfare, March 1958.

²Cook, W. W., Leeds, C. H., and Callis R., Minnesota Teacher Attitude Inventory: Manual. New York: The Psychological Corporation, n.d.

³A copy of the rating form is included in Appendix A.

⁴Copies of the letters are included in Appendix B.

institutions (961 to 205 students). Other variables were grouped so as to retain a maximum refinement of classification while at the same time avoiding a large number of cells with trivial frequencies.⁵ Frequency data were then analyzed by means of the chi square statistical technique.

RESULTS

Results of the study will be presented in three major sections: (1) background data on the population sample, (2) academic preparation data, and (3) professional performance data.

The first section is not directly concerned with the central purpose of the study—to investigate the academic preparation and performance of graduates of different types of teacher-training institutions—but it was thought advisable to present some background data that might be of value in the interpretation of the preparation and performance data. The section will include data on sex; age; marital status; religious affiliation; parental occupation and income; teaching level, salary, and experience; school and community size; and subjects taught.

The second section will present data on teachers' academic preparation—high school credits; and undergraduate credit hours, credit points,⁶ subject matter and professional preparation.

The third section will present data on professional performance—MTAI scores and principals' rating.)

The data for each section will be grouped according to the particular variable under consideration and type of graduating teacher-training institution. The four types of graduating institutions are large public institutions (19,874 to 13,776 students), small public institutions (4,362 to 2,841 students), large private institutions (3,733 to 1,974 students) and small private institutions (961 to 205 students).

Relationships between background, preparation, and performance variables, and type of graduating institution were tested for significance by means of the chi square statistic, which was computed on the basis of frequency data, not the per cents reported in the data tables. The number in parentheses under each type of institution indicates number of teachers responding, unless otherwise indicated by footnote.

BACKGROUND DATA

Personal Data

Sex. There was a significant relationship between teachers' sex and type of graduating institution. Inspection of Table 1 reveals that a higher proportion of males went to public teacher-training institutions. Even here, though, females outnumbered males by almost two to one.

⁵ Specific courses categorized under various subject-matter areas are indicated in Appendix C.

⁶ A=3, B=2, C=1, D=0, E or F = -1.

Table 1. Percentage Distribution of Teachers' Sex According to Type of Graduating Institution

Sex	Type of Institution			
	Public		Private	
	Large (228)	Small (316)	Large (153)	Small (176)
Male	35	34	23	28
Female	65	66	77	72

$$\chi^2 = 8.74 \quad df = 3 \quad p \text{ less than } .05$$

Age. There was a significant relationship between teachers' age and type of graduating institution. Inspection of Table 2 indicates that a higher proportion of older people tended to receive their bachelor's degree from private teacher-training institutions. The modal age for graduates of all types of institutions was 20 to 29 years.

Marital status. There was a significant relationship between teachers' marital status and type of graduating institution. Inspection of Table 3 indicates that a higher proportion of teachers from the intermediate

Table 2. Percentage Distribution of Teachers' Age According to Type of Graduating Institution

Age	Type of Institution			
	Public		Private	
	Large (228)	Small (316)	Large (153)	Small (175)
20-29	71	65	50	60
30-35	14	9	13	12
40-49	6	12	18	10
50-59	7	12	16	15
60-	2	2	4	3

$$\chi^2 = 33.48 \quad df = 12 \quad p \text{ less than } .01$$

size of teacher-training institution (small public and large private institutions) were married. Less than half of any group were single, divorced, or widowed, with very few being in the latter two categories.

Religious affiliation. There was no significant relationship between teachers' religious affiliation and type of graduating institution. Inspection of Table 4 indicates that a large majority of all teachers were Protestant.

Table 3. Percentage Distribution of Teachers' Marital Status According to Type of Graduating Institution

Marital Status	Type of Institution			
	Public		Private	
	Large (195)	Small (256)	Large (125)	Small (158)
Single	34	26	22	40
Married	60	69	69	56
Divorced	2	2	3	1
Widowed	4	3	6	3

$$\chi^2 = 17.95 \quad df = 9 \quad p \text{ less than } .05$$

Table 4. Percentage Distribution of Teachers' Religious Affiliation According to Type of Graduating Institution

Religious Affiliation	Type of Institution			
	Public		Private	
	Large (194)	Small (258)	Large (124)	Small (158)
None	1	1	0	1
Catholic	12	9	7	15
Protestant	84	88	92	85
Jewish	1			
Other	2	2	1	

$$\chi^2 = 14.04 \quad df = 12 \quad p \text{ greater than } .10$$

Parental occupation. There was no significant relationship between teachers' parental occupation and type of graduating institution. Inspection of Table 5 indicates that for all types of teacher-training institutions the teachers' parents were fairly evenly representative of the professional person; proprietor, manager, or official; skilled worker or foreman; and semi-skilled worker; with relatively few having been in the clerk, salesman, or kindred worker; and unskilled worker categories.

Parental income. There was a significant relationship between teachers' parental income and type of graduating institution. Inspection of Table 6 indicates that graduates of larger teacher-training institutions

Table 5. Percentage Distribution of Teachers' Parental Occupation According to Type of Graduating Institution

Parental Occupation	Type of Institution			
	Public		Private	
	Large (187)	Small (243)	Large (121)	Small (150)
Professional person	22	16	15	21
Proprietor, manager or official	25	20	27	23
Clerk, salesman or kindred worker	9	12	13	10
Skilled worker or foreman	23	23	21	21
Semi-skilled worker	13	20	15	19
Unskilled worker	8	10	8	6
$\chi^2 = 12.27$ $df = 15$ p greater than .10				

Table 6. Percentage Distribution of Teachers' Parental Income According to Type of Graduating Institution

Parental Income	Type of Institution			
	Public		Private	
	Large (177)	Small (242)	Large (121)	Small (140)
-\$2,999	16	16	21	20
\$3,000-\$3,999	25	35	29	34
\$4,000-\$4,999	19	19	16	20
\$5,000-\$5,999	11	14	7	6
\$6,000-\$6,999	8	6	9	7
\$7,000-\$7,999	4	3	4	1
\$8,000-\$8,999	3	3	2	4
\$9,000-\$9,999	2	2	2	7
\$10,000-	11	2	8	1
$\chi^2 = 46.76$ $df = 24$ p less than .01				

tended to have parents with a higher income than did the graduates of smaller teacher-training institutions. The modal income for all teachers' parents was \$3,000 to \$3,999.

Professional Data

Teaching level. There was no significant relationship between teachers' teaching level and type of graduating institution. Inspection of Table 7 indicates that the graduates of all types of teacher-training institutions were fairly evenly dispersed through the elementary and secondary grades, with relatively few teaching in kindergarten.

Teaching salary. There was a significant relationship between teachers' salary and type of graduating institution. Inspection of Table 8 indicates that a smaller proportion of graduates from small private teacher-training institutions were receiving a salary of \$4,000 or more. The modal salary was \$4,000-\$4,499, except for graduates of small private institutions, whose modal salary was \$3,500-\$3,999.

Table 7. Percentage Distribution of Teachers' Teaching Level According to Type of Graduating Institution

Teaching Level	Type of Institution			
	Public		Private	
	Large (195)	Small (258)	Large (126)	Small (157)
Kindergarten	5	2	4	2
Grades 1-3	27	32	43	34
Grades 4-6	26	22	22	24
Grades 7-9	21	21	14	23
Grades 10-12	22	23	17	17
$\chi^2 = 15.51$ df = 12 p greater than .10				

Table 8. Percentage Distribution of Teachers' Salary According to Type of Graduating Institution

Teaching Salary	Type of Institution			
	Public		Private	
	Large (228)	Small (316)	Large (153)	Small (176)
<\$2,599	2	1	2	6
\$2,600-\$3,499	5	6	8	6
\$3,500-\$3,999	32	36	24	43
\$4,000-\$4,499	46	41	42	31
\$4,500-\$4,999	11	10	15	8
\$5,000-\$5,499	2	5	6	2
\$5,500-\$5,999	1	1	3	2
\$6,000-		1	1	2
$\chi^2 = 45.91$ df = 21 p less than .01				

Teaching experience. There was a significant relationship between teachers' experience and type of graduating institution. Inspection of Table 9 indicates that a higher proportion of graduates from large public teacher-training institutions were new teachers, that is, had had two or fewer years of experience in their third year of teaching. The highest proportion of all graduates, of course, were new teachers, yet a surprising number of graduates had had several years of teaching experience prior to receipt of the bachelor's degree.

School size. There was a significant relationship between teachers' school size and type of graduating institution. Inspection of Table 10 indicates that a higher proportion of graduates from large public teacher-training institutions were teaching in schools with 750 or more pupils. This was the modal size of school for all graduates.

Community size. There was a significant relationship between teachers' community size and type of graduating institution. Inspection of Table 11 indicates that a higher proportion of graduates from large public and private teacher-training institutions were teaching in communities with a population of 75,000 or more. The modal community size was a population of 2,499 or less, except for graduates of large private institutions, whose modal size was 150,000 or more.

Table 9. Percentage Distribution of Teachers' Experience According to Type of Graduating Institution.

Years of Teaching Experience	Type of Institution			
	Public		Private	
	Large (233)	Small (316)	Large (154)	Small (176)
-2	74	60	52	67
3-5	12	14	11	8
6-8	2	2	6	3
9-11	1	3	1	1
12-14	2	5	5	3
15-17	3	6	9	3
18-20	3	3	6	8
21-	3	7	10	7
$\chi^2 = 52.09$ df = 21 p less than .01				

Table 10. Percentage Distribution of Teachers' School Size According to Type of Graduating Institution

Number of Pupils in School	Type of Institution			
	Public		Private	
	Large (228)	Small (316)	Large (153)	Small (176)
-149	1	4	5	7
150-249	7	13	12	9
250-349	11	17	12	15
350-449	13	15	13	20
450-549	12	12	12	10
550-649	13	12	12	9
650-749	5	6	10	7
750-	37	21	23	23
$\chi^2 = 41.20$ df = 21 p less than .01				

Table 11. Percentage Distribution of Teachers' Community Size According to Type of Graduating Institution

Population of Community	Type of Institution			
	Public		Private	
	Large (228)	Small (316)	Large (153)	Small (176)
- 2,499	19	32	25	33
2,500- 9,999	16	22	17	20
10,000- 24,999	10	9	8	13
25,000- 49,999	16	13	7	13
50,000- 74,999	2	10	1	1
75,000- 99,999	2	1	1	
100,000-124,999	6	1	1	3
125,000-149,999	15	7	11	7
150,000-	14	5	28	10
$\chi^2 = 134.55$ df = 24 p less than .01				

Teaching concentration. There was a significant relationship between secondary and special teachers' teaching concentration and type of graduating institution. Inspection of Table 12 indicates that a higher proportion of graduates from public teacher-training institutions were teaching in only one subject-matter area. The majority of all teachers taught only one subject-matter area, but as many as one fourth of the graduates from public institutions and almost one half of the graduates from private institutions taught in two or more subject-matter areas.

Table 12. Percentage Distribution of Secondary and Special Teachers' Teaching Concentration According to Type of Graduating Institution

Number of Teaching Areas	Type of Institution			
	Public		Private	
	Large (111)	Small (121)	Large (49)	Small (67)
One	73	74	51	48
Two	25	21	47	43
Three or more	2	5	2	9
$\chi^2 = 24.82$ $df = 6$ p less than .01				

There was a significant relationship between secondary and special teachers' total teaching areas and type of graduating institution. Inspection of Table 13 indicates that a higher proportion of graduates from private teacher-training institutions were teaching language arts, physical education, and mathematics, and a higher proportion of graduates from Public institutions were teaching vocational subjects. The modal teaching areas were not based upon strong differences. There was, rather, a fairly wide scattering of teaching areas.

Table 13. Percentage Distribution of Secondary and Special Teachers' Total Teaching Areas According to Type of Graduating Institution

Total Teaching Areas	Type of Institution			
	Public		Private	
	Large (138) ¹	Small (176) ¹	Large (68) ¹	Small (106) ¹
Language Arts	17	14	24	19
Social Studies	14	9	9	14
Natural Science	4	2	1	8
Physical Science	1	2		3
General Science	8	5	6	8
Mathematics	4	9	12	10
Art	7	2	3	2
Music	4	8	10	8
Business	5	10	7	6
Vocational subjects	18	20	6	1
Physical education	14	14	22	18
Safety	4	5		5
$\chi^2 = 50.56$ $df = 33$ p less than .05				

¹ This number is larger than number of teachers because some teachers taught in more than one area.

There was also a significant relationship between secondary and special teachers' single teaching area and type of graduating institution. Inspection of Table 14 indicates that a higher proportion of graduates from private teacher-training institutions were teaching language arts only, music only, or mathematics only, and a higher proportion of graduates from public institutions were teaching vocational subject only or social studies only. The proportion of teachers teaching science only was low for all graduating institutions.

Table 14. Percentage Distribution of Secondary and Special Teachers' Single Teaching Area According to Type of Graduating Institution

Single Teaching Area	Type of Institution			
	Public		Private	
	Large (81)	Small (89)	Large (25)	Small (32)
Language Arts	21	18	28	34
Social Studies	11	8	4	6
Natural Science				3
Physical Science		1		
General Science	6	2		3
Mathematics	4	6	12	13
Art	10	4	8	
Music	6	13	24	16
Vocational subjects	19	27	8	3
Physical education	14	6	12	9
Safety	2	1		
$\chi^2 = 53.57$ $df = 33$ p less than .05				

Finally, there was a significant relationship between secondary and special teachers' teaching area and teaching concentration. Inspection of Table 15 indicates that a high proportion of music and art teachers were teaching no other subjects, and a low proportion of science and safety teachers were teaching no other subjects. (There were not enough teachers in any one teaching area to warrant separate analyses of teaching concentration according to type of graduating institution.)

Academic Preparation

High School Credits

Language arts. There was a significant relationship between teachers' high school credits in language arts and type of graduating institution. Inspection of Table 16 indicates that a higher proportion of graduates from large private teacher-training institutions had two or fewer credits in language arts. The majority of all teachers had six or more credits in language arts.

Social studies. There was a significant relationship between teachers' high school credits in social studies and type of graduating institution. Inspection of Table 17 indicates that a higher proportion of graduates from

Table 15. Frequency Distribution of Secondary and Special Teachers' Teaching Concentration According to Teaching Area

Teaching Area	Subjects Taught Other than one Indicated			Total
	None	One	Two or More	
Language Arts	51	29	4	84
Social Studies	19	30	6	55
Natural Science	1	12	6	19
Physical Science	1	7		8
General Science	8	20	4	32
Mathematics	15	19	5	39
Art	14	4		18
Music	28	7		35
Business	23	13		36
Vocational subjects	43	21	2	65
Physical education	22	44	12	78
Safety	3	11	5	19
Total	227	217	44	488
$\chi^2 = 124.83$ df = 22 p less than .01				

small public teacher-training institutions had six or more credits in social studies, and a higher proportion of graduates from large public and private institutions had one or fewer credits in social studies. The majority of all teachers had three credits in social studies.

Table 16. Percentage Distribution of Teachers' High School Credits in Language Arts According to Type of Graduating Institution

Credits	Type of Institution			
	Public		Private	
	Large (210)	Small (292)	Large (133)	Small (157)
None	3	2	11	2
One		1	1	
Two		1	1	
Three	9	8	5	11
Four	9	11	7	11
Five	15	23	19	13
Six	32	25	25	33
Seven	21	15	22	19
Eight	6	6	5	6
Nine or more	5	10	6	4
$\chi^2 = 53.98$ df = 27 p less than .01				

of graduates from private teacher-training institutions had two or fewer credits in technical subjects. The majority of teachers from public institutions had five or more credits in technical subjects. About half of the teachers from private institutions had three or fewer credits in technical subjects.

Table 17. Percentage Distribution of Teachers' High School Credits in Social Studies According to Type of Graduating Institution

Credits	Type of Institution			
	Public		Private	
	Large (210)	Small (292)	Large (133)	Small (157)
None	10	2	11	3
One	1	2	6	1
Two	14	14	13	18
Three	61	61	56	64
Four	6	12	10	8
Five	6	3	5	4
Six		4		1
Seven	1	1		1
Eight		1		
Nine or more		1		
$\chi^2 = 66.95$ $df = 27$ p less than .01				

Table 18. Percentage Distribution of Teachers' High School Credits in Science and Mathematics According to Type of Graduating Institution.

Credits	Type of Institution			
	Public		Private	
	Large (210)	Small (292)	Large (133)	Small (157)
None	3	2	11	2
One		1		1
Two	5	7	5	2
Three	30	30	32	31
Four	20	16	24	18
Five	26	29	23	28
Six	7	5	2	10
Seven	4	4	2	8
Eight	3	2	1	
Nine or more	1	3	1	1
$\chi^2 = 65.82$ $df = 27$ p less than .01				

Science and Mathematics. There was a significant relationship between teachers' high school credits in science and mathematics and type of graduating institution. Inspection of Table 18 indicates that a higher proportion of graduates from large private teacher-training institutions had two or fewer credits in science and mathematics. Three fourths or more of all teachers had from three to five credits in science and mathematics.

Technical courses. There was a significant relationship between teachers' high school credits in technical courses and type of graduating institution. Inspection of Table 19 indicates that a higher proportion of graduates from private teacher-training institutions had two or fewer credits in technical courses. The majority of teachers from public institutions had five or more credits in technical courses. About half of the teachers from private institutions had three or fewer credits in technical courses.

Table 19. Percentage Distribution of Teachers' High School Credits in Technical courses According to Type of Graduating Institution

Credits	Type of Institution			
	Public		Private	
	Large (205)	Small (292)	Large (133)	Small (157)
None	4	3	14	11
One	4	9	9	11
Two	9	6	11	6
Three	21	15	19	21
Four	11	8	10	8
Five	21	17	17	14
Six	6	8	5	4
Seven	16	14	10	12
Eight	4	7	2	3
Nine or More	4	13	4	8
$\chi^2 = 67.50$ df = 27 p less than .01				

Undergraduate Preparation

Credit hours. There was a significant relationship between teachers' total undergraduate credit hours and type of graduating institution. Inspection of Table 20 indicates that a higher proportion of graduates from small public teacher-training institutions had graduated with 130 or more credit hours. Only one fourth of the teachers from small public institutions had graduated with close to the minimum number of credit hours (129 or less), while about one half of the teachers from the other types of institutions had graduated with close to the minimum number of credit hours.

Table 20. Percentage Distribution of Teachers' Total Undergraduate Credit Hours According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (210)	Small (292)	Large (133)	Small (157)
119	2			
120-129	45	25	51	51
130-139	23	46	37	31
140-149	17	17	8	8
150-159	6	6	2	7
160-169	5	2	2	1
170	2	4	1	2
$\chi^2 = 80.95$ df = 24 p less than .01				

Table 21. Percentage Distribution of Teachers' Transferred Undergraduate Credit Hours According to Type of Graduating Institution

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Transferred credit hours. There was a significant relationship between teachers' transferred undergraduate credit hours and type of graduating institution. Inspection of Table 21 indicates that a higher proportion of graduates from large private teacher-training institutions had transferred 20 or more credit hours, and a higher proportion of them had transferred 80 or more credit hours. The majority of all graduates had transferred nine or fewer credit hours.

Table 21. Percentage Distribution of Teachers' Transferred Undergraduate Credit Hours According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (210)	Small (292)	Large (133)	Small (157)
-9	67	64	56	71
10-19	5	9	4	1
20-29	4	7	5	3
30-39	3	4	4	6
40-49	4	4		4
50-59	5	1	3	3
60-69	5	3	8	4
70-79	5	4	5	4
80-89	2	1	8	
90-		4	9	4
$\chi^2 = 74.33$ df = 27 p less than .01				

Credit points. There was no significant relationship between teachers' total undergraduate credit points and type of graduating institution. Inspection of Table 22 indicates that graduates from all four types of teacher-training institutions were fairly widely scattered in having obtained from 119 or fewer to 390 or more credit points at graduating.

Credit point ratio. There was no significant relationship between teachers' undergraduate credit point ratio and type of graduating institution. Inspection of Table 23 indicates that graduates from all four types of teacher-training institutions were fairly widely scattered in having obtained a credit point ratio between 0.99 or lower and 2.80 or higher.

Undergraduate Subject-matter Preparation of Elementary Teachers

Language arts. There was a significant relationship between elementary teachers' undergraduate credit hours in language arts and type of graduating institution. Inspection of Table 24 indicates that a higher proportion of graduates from small private teacher-training institutions had from 31 to 70 credit hours in language arts, whereas a higher proportion of graduates from other institutions had 30 or fewer credit hours, and a higher proportion of graduates from public institutions had 71 or more credit hours. The majority of elementary teachers had from 11 to 30 credit hours in language arts.

Table 22. Percentage Distribution of Teachers' Total Undergraduate Credit Points According to Type of Graduating Institution.

Credit Points	Type of Institution			
	Public		Private	
	Large (210)	Small (292)	Large (133)	Small (157)
119	1			
120-134	2		1	3
135-149	5	2	3	6
150-164	8	3	7	10
165-179	9	9	12	8
180-194	7	10	10	6
195-209	11	11	8	8
210-224	10	9	11	10
225-239	7	9	8	6
240-254	9	9	9	11
255-269	8	11	7	7
270-284	7	6	11	5
285-299	7	4	4	5
300-314	4	2	2	3
315-329	2	4	3	4
330-344	1	2	2	3
345-359	2	2		3
360-374		1	2	2
375-389		1	1	1
390-		3	1	2
$\chi^2 = 61.70$ $df = 57$ p greater than .10				

Table 23. Percentage Distribution of Teachers' Undergraduate Credit Point Ratio According to Type of Graduating Institution

Credit Point Ratio	Type of Institution			
	Public		Private	
	Large (210)	Small (292)	Large (133)	Small (157)
0.99	1	2	1	
1.00-1.09	4	3	2	4
1.10-1.19	9	3	4	6
1.20-1.29	6	6	5	10
1.30-1.39	16	10	9	7
1.40-1.49	15	7	14	4
1.50-1.59	11	9	11	7
1.60-1.69	11	8	10	7
1.70-1.79	11	11	11	8
1.80-1.89	9	9	11	10
1.90-1.99	9	8	11	8
2.00-2.09	6	8	11	6
2.10-2.19	6	2	11	4
2.20-2.29	4	2	11	4
2.30-2.39	4	3	11	4
2.40-2.49	3	3	11	2
2.50-2.59	3	3	11	2
2.60-2.69	2	2	11	2
2.70-2.79	1	1		3
2.80		1	2	1
$\chi^2 = 71.88$ $df = 57$ p greater than .10				

Table 24. Percentage Distribution of Elementary Teachers' Undergraduate Credit Hours in Language Arts According to Type of Graduating Institution.

Credit Hours	Type of Institution			
	Public		Private	
	Large (110)	Small (183)	Large (94)	Small (94)
-10	5	3	5	7
11-20	45	43	38	35
21-30	31	36	38	33
31-40	9	8	12	7
41-50	1	8	3	7
51-60	1		1	4
61-70	3			4
71-80	3	1		1
81-90	2	1	1	
91-	1	1		

$\chi^2 = 42.78$ df = 27 p less than .05

Table 25. Percentage Distribution of Elementary Teachers' Undergraduate Credit Points in Language Arts According to Type of Graduating Institution.

Credit Points	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
-10	6	2	3	4
11-20	14	13	11	14
21-30	24	22	27	10
31-40	21	29	28	24
41-50	10	13	18	15
51-60	10	10	4	7
61-70	2	3	2	11
71-80	5	3	3	5
81-90	2	2	1	3
91-				

$\chi^2 = 37.44$ df = 27 p less than .10

There was also a significant relationship between elementary teachers' undergraduate credit points in language arts and type of graduating institution. Inspection of Table 25 indicates that a higher proportion of graduates from small private teacher-training institutions had 41 or more credit points. The majority of elementary teachers had from 11 to 50 credit points in language arts.

Social studies. There was a significant relationship between elementary teachers' undergraduate credit hours in social studies and type of graduating institution. Inspection of Table 26 indicates that a higher proportion of graduates from small private teacher-training institutions had 31 or more credit hours in social studies. The mode was 21 to 30 credit hours for all elementary teachers.

Table 26. Percentage Distribution of Elementary Teachers' Undergraduate Credit Hours in Social Studies According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (110)	Small (178)	Large (94)	Small (94)
-10	11	4	4	4
11-20	19	33	32	31
21-30	55	48	48	37
31-40	13	12	12	18
41-50		2	2	7
51-60			2	1
61-70		1		1
71-80	1			
81-90				
91-	1			
$\chi^2 = 44.47$ $df = 24$ p less than .01				

There was, however, no significant relationship between elementary teachers' undergraduate credit points in social studies and type of graduating institution. Inspection of Table 27 indicates the majority of all elementary teachers had from 11 to 40 credit points, with the minority being fairly evenly distributed between 41 to 91 or over and 10 or under credit points.

Table 27. Percentage Distribution of Elementary Teachers' Undergraduate Credit Points in Social Studies According to Type of Graduating Institution.

Credit Points	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
-10	9	5	5	8
11-20	20	20	14	10
21-30	18	21	20	15
31-40	20	20	22	19
41-50	16	14	18	18
51-60	6	12	10	13
61-70	6	5	2	13
71-80	2	2	5	4
81-90			2	1
91-	2	2	1	3
$\chi^2 = 32.29$ $df = 27$ p greater than .10				

Natural Science. There was a significant relationship between elementary teachers' undergraduate credit hours in natural science and type of graduating institution. Inspection of Table 28 indicates that a higher proportion of graduates from small public teacher-training institutions had 11 or more credit hours in natural science. The large majority of elementary teachers had 10 or fewer credit hours in natural science.

Table 28. Percentage Distribution of Elementary Teachers' Undergraduate Credit Hours in Natural Science According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
0-10	87	71	81	86
11-20	9	27	19	12
21-30	2			2
31-40	2	1		
41-50		1		
51-60		1		
$\chi^2 = 30.09$ $df = 15$ p less than .05				

There was, however, no significant relationship between elementary teachers' undergraduate credit points in natural science and type of graduating institution. Inspection of Table 29 indicates that the majority of elementary teachers had 10 or fewer credit points in natural science.

Physical science. There was a significant relationship between elementary teachers' undergraduate credit hours in physical science and type of graduating institution. Inspection of Table 30 indicates that a higher proportion of graduates from public teacher-training institutions had 11 or more credit hours. The majority of elementary teachers had 10 or fewer credit hours in physical science.

There was also a significant relationship between elementary teachers' undergraduate credit points in physical science and type of graduating institution. Inspection of Table 31 indicates that a higher proportion of graduates from public-teacher-training institutions had 11

Table 29. Percentage Distribution of Elementary Teachers' Undergraduate Credit Points in Natural Science According to Type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
0-10	69	54	63	59
11-20	22	29	27	30
21-30	4	11	11	9
31-40	2	5		2
41-50		1		
51-60	1			1
61-70				
71-80	1			
81-90				
91-	2			
$\chi^2 = 28.84$ $df = 21$ p greater than .10				

or more credit points, with the lowest proportion of teachers having 11 or more credit points being graduates from large private institutions. The majority of elementary teachers had 10 or fewer credit points in physical science

Table 30. Percentage Distribution of Elementary Teachers' Undergraduate Credit Hours in Physical Science According to Type of Graduating Institution.

Credit Hours	Type of Institution			
	Public		Private	
	Large (110)	Small (172)	Large (94)	Small (94)
-10	76	72	96	88
11-20	21	11	4	12
21-30	2	16		
31-40	1			
41-50		1		
$\chi^2 = 64.08$ df = 12 p less than .01				

Table 31. Percentage Distribution of Elementary Teachers' Undergraduate Credit Points in Physical Science according to Type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (110)	Small (172)	Large (94)	Small (94)
-10	67	58	88	71
11-20	20	18	11	16
21-30	9	11	1	7
31-40	3	8		3
41-50	1	4		1
51-60		1		1
$\chi^2 = 38.03$ df = 15 p less than .05				

Mathematics. There was no significant relationship between elementary teachers' undergraduate credit hours in mathematics and type of graduating institution. Inspection of Table 32 indicates that almost all elementary teachers had 10 or fewer credit hours in mathematics.

There was, however, a significant relationship between elementary teachers' undergraduate credit points in mathematics and type of graduating institution. Inspection of Table 33 indicates that a higher proportion of graduates from large public teacher-training institutions had 10 or fewer credit points. The large majority of elementary teachers had 10 or fewer credit points in mathematics.

Table 32. Percentage Distribution of Elementary Teachers' Undergraduate Credit Hours in Mathematics According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
-10	100	95	98	98
11-20		3	2	2
21-30		1		
31-40				
41-50		1		
$\chi^2 = 9.18$ df = 9 p greater than .10				

Table 33. Percentage Distribution of Elementary Teachers' Undergraduate Credit Points in Mathematics According to Type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
-10	93	72	85	83
11-20	6	24	13	14
21-30	1	2	2	3
31-40		1		
41-50				
51-60				
61-70		1		
$\chi^2 = 26.16$ $df = 12$ p less than .01				

Arts. There was a significant relationship between elementary teachers' undergraduate credit hours in the arts and type of graduating institution. Inspection of Table 34 indicates that a higher proportion of graduates from small public and private teacher-training institutions had 11 or more credit hours. The majority of elementary teachers, except those graduating from small public and private institutions, had 10 or fewer credit hours in the arts.

Table 34. Percentage Distribution of Elementary Teachers' Undergraduate Credit Hours in the Arts According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (109)	Small (173)	Large (94)	Small (94)
-10	82	32	64	38
11-20	16	54	29	55
21-30	2	10	3	5
31-40	1	2	1	
41-50		1		1
51-60				
61-70			1	
71-80			1	
81-90		1	1	
91-		1		
$\chi^2 = 95.09$ $df = 24$ p less than .01				

There was also a significant relationship between elementary teachers' undergraduate credit points in the arts and type of graduating institution. Inspection of Table 35 indicates that a higher proportion of graduates from small public and private teacher-training institutions had 11 or more credit points. The majority of elementary teachers, except those graduating from small public and private institutions, had 20 or fewer credit points in the arts.

Table 35. Percentage Distribution of Elementary Teachers' Undergraduate Credit Points in the Arts According to Type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (109)	Small (173)	Large (94)	Small (94)
-10	33	17	34	26
11-20	43	24	37	21
21-30	19	27	13	26
31-40	2	20	10	14
41-50	2	5	2	10
51-60	1	3		2
61-70		2		
71-80		2	1	2
81-90				
91-		1	3	
$\chi^2 = 72.07$ df = 24 p less than .01				

Technical subjects. There was a significant relationship between elementary teachers' undergraduate credit hours in technical subjects and type of graduating institution. Inspection of Table 36 indicates that a higher proportion of graduates from small public teacher-training institutions had 11 or more credit hours. The majority of elementary teachers, except those graduating from small public institutions, had 10 or fewer credit hours in technical subjects.

There was also a significant relationship between elementary teachers' undergraduate credit points in technical subjects and type of graduating

Table 36. Percentage Distribution of Elementary Teachers' Undergraduate Credit Hours in Technical Subjects According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
-10	51	21	73	55
11-20	35	42	21	37
21-30	6	29	4	2
31-40	3	5		2
41-50	4	2		
51-60	2	2	1	
61-70				
71-80				
81-90				
91-		1		
$\chi^2 = 114.98$ df = 18 p less than .01				

institution. Inspection of Table 37 indicates that a higher proportion of graduates from small public teacher-training institutions had 11 or more credit points. The majority of elementary teachers, except those graduating from small public teacher-training institutions, had 20 or fewer credit points in technical subjects.

Undergraduate Professional Preparation

Elementary teachers. There was a significant relationship between elementary teachers' undergraduate credit hours in professional training and type of graduating institution. Inspection of Table 38 indicates that a higher proportion of graduates from small private teacher-training institutions had 40 or fewer credit hours of professional training and a smaller proportion of the same group had 61 or more credit hours of professional training, while a higher proportion of graduates from large institutions (public and private) had 41 or more credit hours. The majority of elementary teachers, except for those graduating from small private institutions, had 41 or more credit hours of professional training.

There was also a significant relationship between elementary teachers' undergraduate credit points in professional training and type of graduating institution. Inspection of Table 39 indicates that a higher proportion of graduates from large institutions (public and private) had 71 or more credit points. The majority of elementary teachers, except those graduating from small private institutions, had 71 or more credit points of professional training.

Table 37. Percentage Distribution of Elementary Teachers' Undergraduate Credit Points in Technical Subjects According to Type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
-10	24	6	41	33
11-20	29	21	34	32
21-30	26	24	19	22
31-40	12	23	1	5
41-50	4	13		6
51-60	1	4	1	1
61-70	2	3		
71-80	1	3	2	
81-90	1	1		
91-	1	2	1	
$\chi^2 = 11.06$ df = 27 p less than .01				

secondary teachers' undergraduate credit hours in professional training and type of graduating institution. Inspection of Table 40 indicates that the majority of secondary teachers had 41 or more credit hours of professional training.

Table 38. Percentage Distribution of Elementary Teachers' Undergraduate Credit Hours in Professional Training According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (110)	Small (172)	Large (92)	Small (93)
-10	3		5	5
11-20	6	3	5	5
21-30	8	17	3	14
31-40	12	27	17	30
41-50	45	23	32	32
51-60	17	20	22	9
61-70	5	6	10	
71-80	1	2	4	2
81-90	2	1		
91-	1	2	1	2
$\chi^2 = 64.44$ $df = 27$ p less than .01				

Table 39. Percentage Distribution of Elementary Teachers' Undergraduate Credit Points in Professional Training According to Type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (110)	Small (173)	Large (94)	Small (94)
-10	1	1	2	3
11-20	4	1	7	4
21-30	5	1	1	4
31-40	3	3	2	6
41-50	4	8	2	5
51-60	7	11	3	12
61-70	5	14	12	16
71-80	13	17	13	14
81-90	12	13	18	12
91-	48	31	39	23
$\chi^2 = 52.06$ $df = 27$ p less than .01				

Secondary teachers. There was no significant relationship between secondary teachers' undergraduate credit hours in professional training and type of graduating institution. Inspection of Table 40 indicates that the majority of secondary teachers had 21 or more credit hours of professional training.

Table 40. Percentage Distribution of Secondary Teachers' Undergraduate Credit Hours in Professional Training According to Type of Graduating Institution.

Credit Hours	Type of Institution			
	Public		Private	
	Large (100)	Small (119)	Large (41)	Small (65)
-10	8		7	8
11-20	15	25	15	32
21-30	49	56	59	48
31-40	17	11	15	6
41-50	7	5		5
51-60	2	2	5	2
61-70	1	1		
71-80				
81-90	1			
91-				

$$\chi^2 = 23.27 \quad df = 27 \quad p \text{ greater than } .10$$

There was, however a significant relationship between secondary teachers' undergraduate credit points in professional training and type of graduating institution. Inspection of Table 41 indicates that a higher proportion of graduates from small private teacher-training institutions had 40 or fewer credit points. The majority of secondary teachers had 41 or more credit points of professional training.

Table 41. Percentage Distribution of Secondary Teachers' Undergraduate Credit Points in Professional Training According to Type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (100)	Small (119)	Large (41)	Small (65)
-10	4		4	6
11-20	8	1	5	3
21-30	13	9	12	18
31-40	8	26	10	22
41-50	15	28	37	23
51-60	13	21	17	14
61-70	16	8	5	6
71-80	8	2	2	3
81-90	3	3		2
91-	12	3	7	3

$$\chi^2 = 60.94 \quad df = 27 \quad p \text{ less than } .01$$

Undergraduate Teaching-Area Preparation of Secondary Teachers

Single area. There was no relationship between secondary teachers' undergraduate credit hours in their single subject-matter teaching area and type of graduating institutions. Inspection of Table 42 indicates that the majority of secondary teachers who were teaching only one subject-matter area, except those graduating from small private institutions, had 41 or more credit hours in their teaching area. (Subject-matter areas are indicated in Tables 13-15.)

There was also no relationship between secondary teachers' undergraduate credit points in their single subject-matter teaching area and type of graduating institution. Inspection of Table 43 indicates that the majority of secondary teachers, who were teaching only one subject-matter area, except for those graduating from small private institutions, had 81 or more credit points in their teaching area.

Table 42. Percentage Distribution of Secondary Teachers' Undergraduate Credit Hours in Their Single Subject-Matter Teaching Area According to Type of Graduating Institution.

Credit Hours	Type of Institution			
	Public		Private	
	Large (66)	Small (68)	Large (17)	Small (25)
11-20	3	3		12
21-30	8	1		4
31-40	14	10	24	12
41-50	15	7	24	28
51-60	17	25	24	8
61-70	15	15	6	12
71-80	15	19	6	16
81-90	5	6		8
91-	3	3	6	
	6	10	11	

$\chi^2 = 15.65$ df = 27 p greater than .10

Plural areas. There was no relationship between secondary teachers' undergraduate credit hours in their plural subject-matter teaching areas and type of graduating institution. Inspection of Table 44 indicates that the majority of secondary teachers, who were teaching more than one subject-area, except those graduating from small private institutions, had 51 or more credit hours in their teaching areas.

There was also no significant relationship between secondary teachers' undergraduate credit points in their plural subject-matter teaching areas and type of graduating institution. Inspection of Table 45 indicates that the majority of secondary teachers, who were teaching more than one subject-matter area, except those graduating from small private institutions, had 81 or more credit points in their teaching areas.

Table 43. Percentage Distribution of Secondary Teachers' Undergraduate Credit Points in Their Single Subject-Matter Teaching Area According To type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (66)	Small (68)	Large (17)	Small (25)
-10	3	1		8
11-20	3	4		4
21-30	2	1	6	
31-40	8		6	8
41-50	3	6	12	8
51-60	5	1	6	12
61-70	5	11	6	16
71-80	15	3	12	4
81-90	12	15	12	8
91-	45	57	41	32

$$\chi^2 = 14.34 \quad df = 27 \quad p \text{ greater than } .10$$

Table 44. Percentage Distribution of Secondary Teachers' Undergraduate Credit Hours in Their Plural Subject-Matter Teaching Areas According to Type of Graduating Institution

Credit Hours	Type of Institution			
	Public		Private	
	Large (22)	Small (31)	Large (14)	Small (26)
-10				
11-20	9	3		8
21-30	5	16	21	12
31-40	5	16	14	27
41-50	5	13	7	19
51-60	9	6	21	15
61-70	23	13	7	8
71-80	5	10	21	4
81-90	18	10		
91-	23	13	7	8

$$\chi^2 = 28.07 \quad df = 24 \quad p \text{ greater than } .10$$

Table 45. Percentage Distribution of Secondary Teachers' Undergraduate Credit Points in Their Flural Subject-Matter Teaching Areas According to Type of Graduating Institution

Credit Points	Type of Institution			
	Public		Private	
	Large (22)	Small (8)	Large (14)	Small (26)
-10	5			
11-20				
21-30	3	6	7	4
31-40		13	14	12
41-50	9	10	7	4
51-60	5	6		19
61-70		6	11	8
71-80	5	3	7	19
81-90	9	16	7	
91-	64	39	43	35
$\chi^2 = 27.09$ df = 74 p greater than .10				

Professional Performance

MTAI scores. There was a significant relationship between teachers' MTAI scores and type of graduating institution. Inspection of Table 46 indicates that a higher proportion of graduates from small private teacher-training institutions had MTAI scores of zero or lower. Fifty percent of this group and a majority of graduates from other institutions had MTAI scores of one or higher. (MTAI scores range from -150 to 150, the higher score indicating good rapport with pupils.)

Table 46. Percentage Distribution of Teachers' MTAI Scores According to Type of Graduating Institution

MTAI Scores	Type of Institution			
	Public		Private	
	Large (195)	Small (258)	Large (126)	Small (158)
-150 to -80			2	
-79 to -60	5	3		6
-59 to -40	4	7	7	9
-39 to -20	15	10	16	14
-19 to 0	17	12	17	22
1 to 20	20	23	17	18
21 to 40	17	20	13	15
41 to 60	13	16	20	11
61 to 80	7	9	8	5
81 to 150	3	1	1	1
$\chi^2 = 43.92$ df = 27 p less than .05				

Principals' ratings. There was a significant relationship between teachers' ratings by their principals and type of graduating institution. Inspection of Table 47 indicates that a higher proportion of graduates from the intermediate size teacher-training institutions (small public and large private) were rated in the ninth decile or higher and a higher proportion of graduates from large public and small private institutions were rated in the fifth decile or lower. The majority of all teachers were rated in the eighth decile or higher.

Table 47. Percentage Distribution of Teachers' Ratings by Principals According to Type of Graduating Institution

Principals' Decile Ratings	Type of Institution			
	Public		Private	
	Large (221)	Small (306)	Large (142)	Small (172)
1	1		1	
2	1	1	1	2
3	3	2	3	3
4	5	6	8	5
5	10	5	4	9
6	8	11	12	10
7	11	12	10	16
8	23	18	14	17
9	34	29	27	28
10	8	18	24	12

$$\chi^2 = 43.92 \quad df = 27 \quad p \text{ less than } .05$$

SUMMARY

An investigation was made of the preparation and performance of 800 public school teachers in the state of Indiana. This is the total number of teachers who received the bachelor's degree from any of the 24 Indiana colleges or universities with standard accreditation for teacher education in the calendar year 1954 and who were teaching in Indiana public schools in the school year 1956-57.

The purpose of the investigation was to determine whether the graduates of different types of teacher-training institutions (1) have different preparation for teaching and (2) are different in terms of professional performance.

Data regarding teachers' preparation were taken from college transcripts. Certain teacher background data were taken from State Department records and from a questionnaire used in another study of the present series. Data regarding teachers' professional performance were gathered by mailing the NTEI to teachers and a rating form to principals of the teachers.

In analyzing the data, teacher-training institutions were grouped into four categories: large public institutions (19,874 to 13,776 students), small public institutions (4,362 to 2,841 students), large private institutions (3,733 to 1,974 students), and small private institutions (961 to 205 students). Teacher background, preparation, and performance variables were grouped so as to retain a maximum refinement of classification while at the same time avoiding a large number of cells with trivial frequencies. Frequency data were then analyzed by means of the chi square statistic.

A significant relationship was found to exist between type of graduating teacher-training institution and the following teacher variables:

1. personal characteristics, including: sex, age, marital status, and parental income.
2. Professional background data, including: teaching salary, teaching experience, size of school and size of community in which teaching; and for secondary teachers, subject-matter teaching area, and whether a teacher teaches in one or several areas.
3. high school credits, in: language arts, social studies, science and mathematics, and technical courses.
4. Total undergraduate credit hours and number of transferred credit hours.
5. undergraduate subject-matter preparation of elementary teachers, including: credit hours and credit points in language arts, physical science, the arts, and technical subjects; credit hours in social studies and natural science; and credit points in mathematics.
6. undergraduate professional preparation, including: credit hours and credit points for elementary teachers, and credit points for secondary teachers.
7. professional performance, including: rapport with pupils (NT/I score), and principal's rating of over-all teacher effectiveness.

No significant relationship was found to exist between type of graduating teacher-training institution and the following teacher variables:

1. religious affiliation, parental occupation, and teaching level.
2. total undergraduate credit points and credit point ratio.
3. elementary teachers' credit hours in mathematics, and credit points in social studies and natural science.
4. secondary teachers' credit hours of professional preparation.
5. credit hours and credit points of secondary teachers of single and of plural subject-matter areas in their area or areas of teaching.

The chi square statistic, of course, indicates only whether there is or is not a significant relationship. Any statement regarding the direction of a relationship must be based upon simple inspection of the data. Now one inspects data tables is fairly arbitrary, and results of the inspection are subject to human error, for example selective perception. Nevertheless, if the limitations of the inspection technique be kept in mind, summary statements regarding the direction of the above significant relationships may be of value.

1. In personal characteristics, a higher proportion of graduates from public teacher-training institutions were males; a higher proportion of

graduates from intermediate size institutions (small public and large private) were married (three years after graduation); and a higher proportion of the graduates from private institutions were older upon receipt of their bachelor's degree, and had had parents with a low income.

2. In professional matters, a higher proportion of graduates from public teacher-training institutions taught in a single subject-matter area, taught vocational subjects, and taught vocational subjects only or social studies only; a higher proportion of graduates from private institutions taught language arts, physical education, and mathematics, and taught language arts only, music only, or mathematics only; a higher proportion of graduates from large public institutions were new teachers, that is, had not taught prior to receipt of the bachelor's degree, and were teaching in large school systems; a higher proportion of graduates from large public and private institutions were teaching in large communities; and a higher proportion of graduates from small private institutions were receiving lower salaries.

3. In high school academic preparation, a higher proportion of graduates from large private teacher-training institutions had no high school credits in language arts, science, and mathematics; a higher proportion of graduates from private institutions had no high school credits in technical courses; and a higher proportion of graduates from large public and private institutions had no high school credits in social studies.

4. In undergraduate academic preparation, a higher proportion of graduates from small public teacher-training institutions had more than the minimum number of credit hours required for graduation; and a higher proportion of graduates from large private institutions had more transfer credits.

5. In undergraduate subject-matter preparation of elementary teachers a higher proportion of graduates from public teacher-training institutions had 11 or more credit hours and credit points in physical science; a higher proportion of graduates from large public institutions had 10 or fewer credit points in mathematics; a higher proportion of graduates from small public institutions had 11 or more credit hours in natural science and technical subjects, and 11 or more credit points in technical subjects; a higher proportion of graduates from small public and private institutions had 11 or more credit hours and credit points in the arts; and a higher proportion of graduates from small private institutions had from 11 to 70 credit hours and 41 or more credit points in language arts, and 11 or more credit points in social studies.

6. In undergraduate professional preparation, a higher proportion of elementary teachers graduating from small private teacher-training institutions had 40 or less credit hours and 70 or less credit points of professional preparation; and a higher proportion of secondary teachers graduating from small private teacher-training institutions had 40 or less credit points of professional preparation. (Professional preparation includes all courses in any field of education and psychology.)

7. In professional performance, a higher proportion of graduates from small private teacher-training institutions obtained negative KTAI scores; and a higher proportion of graduates from the intermediate size institution (small public and large private) were judged by their principals to be in the ninth decile or higher in over-all teacher effectiveness.

3.

CONCLUSION

It is concluded that graduates of different sizes and types of teacher-training institutions do differ in their preparation for teaching, and they differ in professional performance, as reflected by scores on the Minnesota Teacher Attitude Inventory and by their principals' ratings of over-all teacher effectiveness. They also differ on certain background dimensions prior to entering the institutions from which they were graduated. The preparation and background differences are not, however, sufficiently systematic, nor are the two performance variables sufficiently inclusive to warrant any conclusion regarding which size or type of teacher-training institution is producing better teachers.

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APPENDIX A

Do not ask to compare these rankings with each other, let students
with all teachers with **TEACHER RANKING FORM** estimate, 10 per cent of
them, or distribution of rank-ordering, such as in the lowest 10 per
cent (column 11), 10 per cent of them will be in the next group 10
per cent (column 10), and so on to the highest 10 per cent (column 12).

TEACHER RANKING FORM

You are not to compare these teachers with each other, but rather with all teachers with whom you have had experience, 10 per cent of whom, by definition of rank-ordering, must be in the lowest 10 per cent (Column 10), 10 per cent of whom must be in the next lowest 10 per cent (Column 20), and so on to the highest 10 per cent (Column 100).

Over-all Teacher Effectiveness

Name _____

Percentile Ranking

10 20 30 40 50 60 70 80 90 100

[illegible]

Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Department of Education
Bloomington, Indiana

Dear Mr. Doe:

APPENDIX B

LETTERS ACCOMPANYING RESEARCH MATERIALS

As part of the Office of Education, Department of Education, a project of Indiana teachers who were asked to provide information regarding educational activities and teacher-student relations.

I have had many you see, that the many things reported of teachers, but now I ask that you take on the further task and complete the outlined questionnaire and inventory. It should take only a few minutes of your time.

Be sure about your time on any of the materials that you receive. The majority of your responses will be carefully recorded by one of a staff member.

Please, don't assume that much. Other teachers will complete and return the form, so that you won't be left. I am very anxious that you complete and return the enclosed questionnaire, and the inventory sheet sheet. And if you also please return the available inventory sheet.

I shall be most appreciative of your cooperation in completing the data necessary for completion of the research project.

Sincerely,

Dr. Lloyd A. Swanson
Project Director

Enclosure

Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

As part of a research project supported by the U. S. Office of Education, Department of Health, Education, and Welfare, a select number of Indiana teachers are being asked to provide information regarding out-of-school activities and teacher-pupil relations.

I know how busy you are, doing the many things expected of teachers, but may I ask that you take on one further task and complete the enclosed questionnaire and inventory. It should take only a few minutes of your time.

Do not place your name on any of the materials that you return. The anonymity of your response will be carefully guarded by use of a code number.

Please, don't assume that enough other teachers will complete and return the data, so that yours won't matter. I am most anxious that you complete and return the enclosed questionnaire, and the inventory answer sheet. Would you also please return the attitude inventory booklet?

I shall be most appreciative of your cooperation in supplying the data necessary for completion of the research project.

Sincerely,

Dr. Lloyd S. Standlee
Project Director

Enclosures

Institute of Educational Research
Indiana University
Bloomington, Indiana

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Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

Several days ago I wrote to you regarding a research project supported by the U. S. Office of Education, Department of Health, Education, and Welfare. The project involves an analysis of certain aspects of teacher education in Indiana. One phase of the research requires that a select number of Indiana teachers provide information regarding out-of-school activities and teacher-pupil relations.

Having been a teacher myself, I realize only too well how busy you must be, performing the many tasks required of teachers, but may I request a few moments of your time in order to complete the enclosed questionnaire and inventory.

It is crucial that you, as one of the selected teachers, complete and return the data. Please, don't assume that enough other teachers will have completed the forms; your response is essential.

Do not place your name on any of the materials. The anonymity of your response will be carefully guarded by use of a code number. In addition to returning the enclosed questionnaire and inventory answer sheet, will you please return the attitude inventory booklet?

I shall be most appreciative of your assistance in supplying the data necessary for completion of the research project.

Sincerely yours,

Dr. Lloyd S. Standlee
Project Director

Enclosures

Institute of Educational Research
Indiana University
Bloomington, Indiana

**Institute of Educational Research
Indiana University
Bloomington, Indiana**

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

With the end of the academic year drawing near, the data-gathering phase of the research project in which you are a selected subject must be concluded. I am, therefore, making a final request that you complete and return the enclosed forms.

If the time required to complete the research materials has been a factor in your failure to return the forms, please use a "first impression" type of a proach, which should reduce the time to an absolute minimum.

Yours very truly,

Dr. Lloyd S. Standlee
Project Director

Enclosures

Dr. Lloyd S. Standlee
Project Director

Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

As part of a research project supported by the U. S. Office of Education, Department of Health, Education, and Welfare, Indiana school principals are being asked to evaluate the over-all teacher effectiveness of a stratified sample of Indiana teachers.

I know how busy you are, doing the many things expected of principals, but may I ask that you take on one further task and complete the enclosed Teacher Ranking Form.

Please rank each teacher as you honestly think the teacher stands relative to other teachers with whom you have had experience. Your appraisal of a teacher will be used only for the purpose of providing data essential to the research project. The anonymity of a teacher's ranking will be carefully guarded by use of a code number.

Please, don't assume that enough other principals will complete and return the ranking form, so that yours won't matter. I am most anxious that you complete and return the enclosed Teacher Ranking Form.

I shall be most appreciative of your cooperation in supplying the data necessary for this phase of the research project.

Sincerely yours,

Dr. Lloyd S. Standlee
Project Director

Enclosures

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Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

Several days ago I wrote to you regarding a research project supported by the U. S. Office of Education, Department of Health, Education, and Welfare. The project involves an analysis of certain aspects of teacher education in Indiana. One phase of the research requires that Indiana school principals evaluate the over-all teacher effectiveness of a stratified sample of Indiana teachers.

Although I realize only too well how busy you must be, doing the many things required of principals, may I ask that you take on one more brief task and complete the enclosed Teacher Ranking Form.

Please rank each teacher as you honestly think the teacher stands relative to other teachers with whom you have had experience. Your appraisal of a teacher will be used only for the purpose of providing data essential to the research project. The anonymity of a teacher's ranking will be carefully guarded by use of a code number.

Please, don't assume that enough other principals will have completed and returned the ranking form, so that yours won't matter. I am most anxious that you complete and return the enclosed Teacher Ranking Form.

I shall be most appreciative of your assistance in supplying the data necessary for this phase of the research project.

Sincerely yours,

Dr. Lloyd S. Standlee
Project Director

Enclosures

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Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

With the end of the academic year drawing near, the data-gathering phase of the research project which I am conducting under a grant from the U. S. Office of Education must be concluded. I am, therefore, making a final request that you complete and return the enclosed Teacher Ranking Form.

The percentage of returns has been exceptionally high, but your return is needed to make it 100 per cent.

Yours very truly,

Dr. Lloyd S. Standlee
Project Director

Enclosures

U.S. DEPARTMENT OF COMMERCE

Language Area Indicators

- English
- Spanish
- French
- Portuguese
- German
- Italian
- Japanese
- Chinese

Subject Matter Indicators

- Commerce
- Finance
- Business
- Industry
- Transportation
- Communication
- Education
- Health
- Environment

APPENDIX C

SUBJECT-MATTER AREA CLASSIFICATION

Language Indicators

- English
- Spanish
- French
- Portuguese
- German
- Italian
- Japanese
- Chinese

Subject Matter Indicators

- Commerce
- Finance
- Business
- Industry
- Transportation
- Communication
- Education
- Health
- Environment
- Technology and Agriculture

HIGH SCHOOL HIGHEST-ATTAINING AREAS

Language Arts includes:

English
Literature
Composition
Foreign languages
Speech
Journalism
Drama

Social Studies includes:

Government
Civics
American problems, democracy, etc.
History (World or American)
Geography
Sociology
Economics

Sciences includes:

General Science
Biology
Zoology
Chemistry
Physics
Mathematics

Technical includes:

Shop
Business
Home Economics
Music
Art
Vocational and Agricultural

UNDERGRADUATE SUBJECT-MATTER GUIDE

Language Arts includes:

English
Composition
Literature
Foreign Language
Speech
Linguistics

Technical Courses include:

Business
Physical Education
Home Economics
Trade subjects
Engineering

Professional includes:

Social Studies includes:

Government
Geography
History
Anthropology
Sociology
Economics
Philosophy
Economic Geology, "Geology and Man"

All courses in any field of
Education and psychology.

Natural Science includes:

Life sciences
Paleontology

Physical Science includes:

Astronomy
Chemistry
Physics
Geology: All not listed under
Social Studies

Mathematics:

Algebra
Trigonometry
Geometry
Calculus

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RESEARCH REPORT NO. 2

**Out-of-School Activities of Teachers as
Related to an Index of Their
Professional Performance**

W. James Popham

**SCHOOL OF EDUCATION
INDIANA UNIVERSITY**

Prepared under Contract 6400

U.S. Office of Education

Department of Health, Education, and Welfare

Lloyd S. Standlee, Principal Investigator

MARCH 1958

RESEARCH REPORT NO. 3

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**Out-of-School Activities of Teachers as
Related to an Index of Their
Professional Performance**

W. James Popham

Submitted in partial fulfillment of the requirements
for the Doctor of Education degree
in the School of Education
Indiana University
June, 1958

**SCHOOL OF EDUCATION
INDIANA UNIVERSITY**

Prepared under Contract 6400
U. S. Office of Education
Department of Health, Education, and Welfare
Lloyd S. Standlee, Principal Investigator

March 1958

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¹ Allard, Lucile. *A Study of the Leisure Activities of Certain
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² Commission on the Reorganization of Secondary Education.
Cardinal Principles of Secondary Education, pp. 25, 28.

CHAPTER I

INTRODUCTION

In recent years problems associated with leisure time utilization have claimed increasing attention from educational leaders. This attention is a direct outgrowth of the increased amount of free time which science and technology have made available to our society. Although the technological advances which have benefited other occupations have not markedly reduced the number of hours necessary for teachers to perform their professional duties, the focus on wise use of out-of-work hours in other vocational pursuits has raised questions concerning the educational implications of leisure time.

It would seem reasonable to expect that as science and technology present our people with increased quantities of free time, there should be a corresponding increase in the attention devoted by educators to the implications for the schools of this increase in leisure time. Noting that the problems of leisure time utilization have been claiming the attention of students in various fields, Allard contends that educational leaders should devote more study to this subject.

Leaders in education should be raising questions as to the kinds and significance of out-of-school activities in relation to school curricula from elementary to college levels, and in relations of out-of-work activities to efficiency and contentment on the job. Participation in certain types of activities may have different effects on different people, but perhaps there are some leisure activities in general which could be accepted as more desirable than others.¹

While it is true that educators² have been vocal regarding the importance of leisure time in general, few studies have been conducted which

¹ Allard, Lucille, A Study of the Leisure Activities of Certain Elementary School Teachers of Long Island, pp. 6-7.

² Commission on the Reorganization of Secondary Education, Cardinal Principles of Secondary Education, pp. 15, 29.

specifically concern the out-of-school activities of teachers.³ Certainly, as highly influential members of our society, teachers should not be exempted from a study of their leisure time pursuits. However, regarding teachers' leisure time activities, Richey remarks that "recent research on this topic is conspicuously lacking . . . the most elaborate study pertinent here is more than a generation old."⁴

Even though a review of the literature bears out Richey's contention regarding research in the area of teachers' out-of-school activities, many educational writers have not hesitated to offer rather specific advice to both prospective and practicing teachers regarding the relative merits of certain leisure time activities.

Educational literature of a variety of types, including textbooks used in courses on professional methods, supervision, introduction to education, frequently contain references to the value of leisure time participation in community and social affairs. Few would deny that such participation would be valuable from the standpoint of strengthened school-community relations. However, it is often pointed out that participation of this type is beneficial on the grounds that it improves the teacher's performance in the classroom. Representative examples are presented below.

From a recently published supervision text:

Through social experiences in which the teacher has a chance to share with others and gain greater security in his social relationships, he can acquire some of the skills that will help him establish better relationships with his pupils.⁵

³The term "out-of-school activities," as used in this study designates those activities which are performed during that part of the day and/or week which is not a part of the official school day or week. Further, this term does not refer to those activities which are performed by teachers as part of special school assignments, even though the activities occur during non-official school time.

⁴Richey, R. W., Planning for Teaching, p. 221.

⁵Wiles, Kimball, Supervision for Better Schools, p. 117.

Alcorn, M. D., Howdeman, H. A., and Stewart, J. H., Better Teaching in Secondary Schools, p. 174.

Lee, O. C., An Introduction to Education in Modern America, p. 187.

⁶Alcorn, H. L., "Leisure-time Activities for Teachers," Teachers College Journal 16:7, September, 1944.

⁷Alcorn, op. cit., p. 184.

From a widely used general methods of teaching textbook:

Relaxation at the end of the day, on a week end, or at the close of the school year will enable you to live longer and to be a happier and more successful teacher in the process.⁶

From a general introductory education text, on the topic of recreation: "Indeed one can hardly conceive of the truly effective teacher without assuming this [recreation] to be a part of his essence."⁷

From a professional journal article, pointing to a criterion by which a teacher should judge the value of a leisure activity: "Will this activity make me a more efficient teacher?"⁸

What is the justification for such observations? If it is true that research related to teachers' leisure activities is "conspicuously lacking," then upon what evidence is such advice based? Surely, advice given to prospective teachers would be better grounded on factual, rather than speculative, bases.

Another aspect of leisure time activities of teachers which has received rather widespread acceptance in educational circles is the utilization by administrators of a teacher's out-of-school participation record as a criterion in the selection of job applicants. Many application forms for teaching positions include a section requesting information about outside activity participation. The fact that such a practice is prevalent is borne out by comments like the following, found in a general methods text concerning teacher participation in community affairs: "such experience not only gives you a better understanding of community life but it also makes a good impression on prospective employers."⁹

Are administrators justified in utilizing a teacher's leisure time participation record as an influencing element in selection judgments? Are such selective practices substantiated by sufficient research evidence?

Research designed to clarify the relationships existing between teacher's out-of-school activities and their teaching performance will offer evidence

⁶ Alcorn, M. D., Houseman, R. A., and Shunert, J.R., Better Teaching in Secondary Schools, p. 474.

⁷ Lee, G. C., An Introduction to Education in Modern America, p. 297.

⁸ Abell, E. L., "Leisure-time Activities for Teachers," Teachers College Journal 16:7, September, 1944.

⁹ Alcorn, op. cit., p. 89.

needed in evaluating both educational practices mentioned above, i.e., (1) the advocacy of leisure time activity as an aid to teaching performance, and (2) the use of a teacher's activity record as a criterion by which administrators evaluate applicants for teaching positions.

Clearly, an attempt to relate teachers' out-of-school activities to their teaching performance is a formidable task, considering the complexity of the classroom learning situation. One fruitful avenue of approach to this problem may lie in the consideration of a specific variable identifiable in the school learning situation, providing the variable selected is of fundamental importance in the learning situation.

If one conceives of classroom learning as a highly interpersonal situation involving teacher and pupils, anything which influences this interpersonal relationship will be of importance in determining the quality of the learning which takes place. Since the teacher's attitude toward his relationships with pupils would most certainly influence these pupil-teacher relations, this attitude,¹⁰ surely, is an important determinant of the type of learning that transpires.

Psychologists generally agree that one's attitudes are most important factors in interpreting, and therefore in reacting to, situations.¹¹ The influential nature of particular teacher attitudes will be evident in the establishment of relations between pupils and teacher. The teacher is, in a very real sense, the principal initiator and maintainer of the interpersonal relations in the classroom. Further, the pupils' perception of the teacher's attitude toward these interpersonal relationships will also influence the type of rapport which will be established.

Given a sufficiently reliable and sensitive measure of their attitudes toward pupil-teacher relations, the out-of-school activities of teachers can be analyzed in terms of this index of their professional performance.

Recent research has provided a self-report inventory which offers considerable promise as a device with which to measure the attitudes of teachers. This instrument, the Minnesota Teacher Attitude Inventory (MTAI), has received

¹⁰ The terms "attitude toward pupil-teacher relations" and "attitude" will hereafter be used interchangeably.

¹¹ Stagner, Ross, "Attitudes," Encyclopedia of Educational Research, p. 77, edited by W. S. Monroe; Cantor; Nathaniel, The Teaching-Learning Process, pp. 78-98.

a generally favorable reception from reviewers. One such authority describes the background of the instrument as follows: "Test development of exceptional quality lies behind this inventory. Publication was preceded by patient and careful research."¹² Correlations ranging from 0.63 to 0.46 between scores on this inventory and the combined ratings by principals, observers, and pupils of the teacher's ability to establish rapport with children have been termed "remarkably good" by the same reviewer. A recently conducted validity study yielded similar correlations between pupil-advisor ratings and scores made by student teachers on the Minnesota Teacher Attitude Inventory.¹³

An analysis of some of the relationships which exist between teachers' attitudes and their out-of-school activities will supply data which should be of value to educators in determining the proper value to be placed on a selected leisure time activity with respect to pre-service teacher education, in-service teacher education, and administrative teacher selection.

Purpose of the Study

The purpose of this investigation was to determine the relationships which exist between the out-of-school activities of selected teachers and their attitudes toward pupil-teacher relations. This attitude is defined operationally in the present investigation, i.e., it is the variable measured by the Minnesota Teacher Attitude Inventory.

In addition to the major purpose of the study, four other purposes were to determine:

1. The relationships between the instructional level (kindergarten, primary, intermediate, junior high, or senior high) of teachers and their attitudes toward pupil-teacher relations.

¹²Cronbach, L. J., in The Fourth Mental Measurements Yearbook, p. 798, edited by O. Buros.

¹³Stein, H. L., and Hardy, James, "A Validation Study of the Minnesota Teacher Attitude Inventory in Manitoba," Journal of Educational Research 50:321-338, January, 1957.

2. The relationships between sex of teachers and their attitudes toward pupil-teacher relations.

3. The relationships between the salaries of teachers and their attitudes toward pupil-teacher relations.

4. The relationships between teachers' expressed satisfaction with teaching as a career and their attitudes toward pupil-teacher relations.

It should be noted at this point that the purposes of the study are primarily exploratory. Because of its exploratory nature the investigation possesses certain limitations. One such limitation concerns teachers' out-of-school activities. The out-of-school activities considered in the study were: in-service education activities, out-of-school employment activities, non-professional activities involved in daily living, organizational activities, sports activities, entertainment activities, and hobby activities. While these activities were considered to represent most phases of the teacher's out-of-school life, it should not be assumed that the selection of activities not treated in this study might yield substantially different results from those obtained in this investigation. Another limitation arises from the use of teachers' MTAI scores as an index of professional performance. Although research studies indicate that the MTAI is suitable for the purposes of the present investigation, other indices of professional performance might yield results varying from those obtained in the present study. Finally, the study is limited in that its design allows for no determination of causal relationships. As an exploratory study, its principal concern is the determination of whether or not significant relationships exist between selected variables. The investigation of the exact nature, causal or otherwise, of any relationships established in this study is a matter for further research.

Review of Related Research and Literature

In surveying the literature related to the present study, two criteria were utilized as guides in selecting research to be reviewed. The first of these criteria was that research selected must be relevant, either in fact or by implication, to the purposes of the present study. The second criterion of selection was that the studies selected must represent research of a rigorous nature, thereby excluding writings with non-factual bases.

A clarification of the degree of relevance required in the first criterion should be made at this point. The two principal concerns of the present study

lie within the area of (1) attitudes and (2) out-of-school, or leisure time, activities of teachers. In general, there has been abundant material written on either subject. The number of well controlled studies conducted on problems relating to attitudes is particularly impressive.¹⁴ These attitudinal studies, since they rarely consider leisure time activities, are not particularly relevant to the present investigation.

Literature concerning the out-of-school activities of teachers, although less plentiful, bears a closer relationship to the present study. Much of this literature must be excluded on the grounds that it has little solid factual basis.¹⁵ Those investigations which represent research of a satisfactorily rigorous nature fall into two major categories. In one category will be found those studies which deal with the leisure time pursuits of teachers only as a part of a more generalized analysis of leisure time, such as the studies conducted by Nelson,¹⁶ Lundberg,¹⁷ and Cappio.¹⁸ In the second group are studies which treat the leisure time activities of teachers exclusively. Among the latter studies are those directed by Moldaschl,¹⁹ Williams,²⁰ Patterson,²¹ Curtis,²² and Allard.²³

¹⁴Allport, Gordon, "Attitudes," A Handbook of Social Psychology, pp. 798-844, edited by C. Murchison.

¹⁵Greenhoe, Florence, Community Contacts and Participation of Teachers, p. 3.

¹⁶Nelson, Janet, Leisure Time Interests and Activities of Business Girls, 116 pp.

¹⁷Lundberg, George, et al., Leisure---A Suburban Study, 396 pp.

¹⁸Cappio, Alfred, unpublished study made under the auspices of Paterson Recreation Commission, as cited in Allard, op. cit., p. 10.

¹⁹Moldaschl, Margaret, The Recreational Life of Seven Hundred Thirty-Four Teachers in New Jersey.

²⁰Williams, Walter, A Study of the Leisure Time Activities of School Teachers.

²¹Patterson, Miller, The Recreation Activities of Men Teachers in the State of Oklahoma.

²²Curtis, Henry, Recreation for Teachers, 288 pp.

²³Allard, op. cit.

The vast majority of studies in both of these categories are surveys, primarily attempting to establish a picture of the status quo with respect to teachers' leisure time activities. Such survey research bears only the most tenuous relationship to the present investigation. In order to be directly relevant to this study, research should evidence an attempt to probe relationships between the out-of-school activities of teachers and particular variables with which they might be related.

Although the two selective criteria restrict the coverage of this review, seven investigations meet the requirements necessary for inclusion.

In 1938 a nationwide study of the health problems of teachers was reported by the Department of Classroom Teachers of the National Education Association.²⁴ A questionnaire dealing with the health problems and health habits of classroom teachers was distributed to 19,237 teachers. Of these, 5,150 questionnaires, or 26.8 per cent, were returned. One phase of this investigation considered the teacher's health as affected by factors outside the school. Several variables related to non-school activities of teachers who were isolated. The authors conclude that "certain trends with respect to out-of-school activities seemed rather clearly linked with differences in age, marital status, health status, and attitude toward teaching."²⁵ Attitude toward teaching in this study was defined in terms of a teacher's satisfaction with teaching as a vocational choice.

Near the close of 1940 Brookover²⁶ tested the hypothesis that "certain social and social-psychological factors are related to teaching ability."²⁷ Subjects for the study were 66 male Indiana high school American History teachers located in rural consolidated high schools. Social and social-psychological data were gathered through questionnaires which were distributed to pupils, teachers, and trustee-administrators. The criterion of teaching ability was mean gain in pupil history information as measured by a pre-test and a post-test. Among other results, the investigator concluded as follows:

²⁴Fit to Teach, Ninth Yearbook of the Department of Classroom Teachers, National Education Association, 276 pp.

²⁵Ibid., p. 158.

²⁶ Brookover, Wilbur, "The Relation of Social Factors to Teaching Ability," Journal of Experimental Education 13:191-205, June, 1945.

²⁷Ibid., p. 192.

No index of the teacher's role in the community (i.e., length of residence, participation in community activities, church attendance, etc.) is related to his effectiveness in teaching history as measured by pupils' gains in information; neither is there a consistent pattern of relationships between the several indexes of teacher's participation in community activities and employers' ratings of teaching ability.²⁸

²⁹Greenhoe reported in 1941 the results of a national study designed to secure research data on three major areas of teacher and community relations, (1) teacher mobility, (2) teacher reaction to community conduct codes, and (3) teacher participation in organized community life. The investigator described the participation in community activities of only the Ohio sample of the nationwide survey. In Ohio 5,033 questionnaires were distributed; 2,870 returns were received with a response ratio of over 57 per cent. Basic variables discovered to be related to community participation were teachers' (1) sex and (2) teaching level.

Early in 1949 Martindale³⁰ concluded an investigation involving beginning teachers who were graduated from the University of Wisconsin School of Education in 1948. The two principal data-gathering instruments used in the study were (1) an inventory of 316 teaching situational factors, and (2) a supervisory rating form. Of the 209 inventories originally sent to subjects, 72 useable copies, or 34.4 per cent were returned. Teacher responses of satisfaction, neutrality, or dissatisfaction with the situational factors of the inventory, plus supervisors' ratings of each teacher's success, comprised the data. Of the findings pertinent to the present study, several community participation factors such as club membership and youth leadership were significantly related to the degree of satisfaction, neutrality, or dissatisfaction evidenced by participating teachers.

In 1954 Thomas³¹ reported a study in which an extra-school community

²⁸Ibid., p. 205.

²⁹Greenhoe, op. cit.

³⁰Martindale, Frank, "Situational Factors in Teacher Placement and Success," Journal of Experimental Education 20:121-177, December, 1951.

³¹Thomas, M. R., Extra-School Community Activities of High School Teachers with Implications for the Community School.

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activity questionnaire was mailed to 1,301 of Idaho's public high school teachers of grades 9 through 12. Of these, 650 completed data forms, or 49.9 per cent, were returned. A separate rating form was administered to these teachers' supervisory officers and 265 teacher ratings were obtained. A major conclusion of the study was that teaching ability as rated by supervisory officers showed little correlation with the average number of out-of-school community hours spent by teachers per week, although those teachers with seven hours or more per week of community activity did rate somewhat higher than those with fewer hours. It should be noted that the 265 ratings constituted a rating sample of only 20.4 per cent of the population which had been originally specified.

A case study of the professional education staff of a small town in the Northeastern section of the United States was reported by Hamblin³² in 1954. This investigation, based on the investigator's personal interviews with 84 teachers, specialists, and administrators, was designed to determine the extent of their job satisfaction. The study reported no significant relationships between teachers' social participation and (1) sex, (2) age, (3) income, and (4) marital status. Further, the investigation indicated no substantial relationship between the quantity of a teacher's extra-professional social participation and the amount of personal satisfaction evidenced by that teacher.

In 1956 Welch³³ reported an investigation of the out-of-school activities of a selected group of Indiana elementary teachers. Data were obtained from a questionnaire which was distributed to a seven per cent random sample of 987 elementary teachers of self-contained classrooms. Questionnaires were returned by 728 subjects, or 73.7 per cent of the total sample. Results of the study indicated that the following variables were related to particular out-of-school activities of teachers: sex, age, marital status, number of dependents, years of college preparation, teaching experience, salary, teaching level, population of teaching community, extent of employment, and satisfaction with teaching as a vocational choice.

In summary, the studies reported here offer conflicting evidence regarding the relationship of teachers' out-of-school activities to such variables as age, sex, marital status, salary, and satisfaction with teaching as a vocation. No research reported here indicated a relationship between teachers' leisure time activities and teaching ability as measured by (1) supervisory ratings and (2) gains in pupil information.

³²Hamblin, Francis, The Relation of Extra-Professional Social Participation of Public School Personnel to Selected Social Opinions and Satisfaction: A Case Study.

³³Welch, Ronald, An Analysis of the Out-of-School Activities of a Selected Group of Elementary Teachers.

CHAPTER II

METHODOLOGY

The Variables

Two principal variables were under consideration in the present study. The first of these was selected out-of-school activities of teachers. These activities were examined in terms of frequency of participation in particular activities or groups of activities. The second major variable was teachers' attitudes toward pupil-teacher relations.

It should be noted that while these two variables were considered "principal" because of the relevance to the problem at hand, they should not be thought of as either "independent" or "dependent" in the experimental sense. The research design of this investigation allowed for no manipulation of either variable. While relationships will be probed, no causality can be sought or deduced.

Four further variables considered in the investigation were (1) teachers' sex, (2) teachers' instructional level, (3) teachers' salary, and (4) teachers' expressed satisfaction with teaching as a career. As in the case of the two principal variables, no causal relationships will be established for these four variables.

The Measures

One of the two chief measuring instruments utilized in the study was the Minnesota Teacher Attitude Inventory (MTAI). This instrument was empirically designed and validated to assess the particular attitudinal variable present in this investigation, namely, teacher attitude toward pupil-teacher relations.

The other principal measuring instrument used in the present study was a questionnaire¹ designed to obtain information regarding the out-of-school activities of teachers. The instrument was a modification of a questionnaire

¹See Appendix E.

designed by Welch² and demonstrated in his doctoral study to be a suitable instrument for gathering information about the leisure time activities of teachers.

Certain items of the Welch questionnaire were deleted on the grounds that they were not relevant to the purposes of the present study. Other items were deleted since they were designed to obtain information available through other sources. Modifications in format and item construction were carried out partly as a result of an item analysis of responses to the Welch questionnaire.

Data concerning the secondary variables of teacher's sex, instructional level, and salary were obtained from the records of the Indiana State Department of Public Instruction. Form 35-A, which is required from all school districts in the state of Indiana, was the source of these data. Data concerning teachers' expressed satisfaction with teaching as a career were obtained from responses to an item included in the out-of-school activities questionnaire.

The Research Sample³

The research sample utilized in the conduct of this study was composed of 1954 graduates of the 24 Indiana institutions of higher learning with standard accreditation for teacher education. Only those graduates who were professionally employed by the public schools of Indiana during the 1956-1957 academic year were selected as subjects in the sample. The steps required to identify and locate the teachers in the sample were the following:

From records of the Indiana State Department of Public Instruction, names and general teaching location, that is, county and township to which the teacher was assigned, were obtained for all teachers listed as 1954 graduates (any month) of one of the Indiana institutions of higher learning with standard accreditation for teacher education. A total of 880 subjects were selected from Form 35-A, which lists all persons who, for a given year, are assigned to teaching duties in Indiana.

²Welch, op. cit.

³In a sense the subjects included in the study represent a research population, rather than a sample, since they exhaust all of a certain segment of Indiana teachers. However, since generalizations may be made about teachers in other situations on the basis of this study, it was decided to consider the subjects as a research sample.

Since mailing addresses were required for distribution of research materials to teachers in the sample, the 1955-1956 Indiana School Directory⁴ was consulted to determine the particular school in a given county and township in which the selected subject was teaching. Because this directory is issued biennially, teacher assignment changes made it impossible to locate the teaching addresses of 313 members of the sample. Letters requesting the teaching addresses of these 313 subjects were sent to the county or city school superintendent in charge of the system to which the teacher was assigned. After several follow-up requests, a school mailing address was obtained for each of the 880 teachers included in the study.

The Procedure

All members of the sample were listed on roster sheets, and a code number was assigned to each subject. The research materials administered to subjects were identified by these code numbers.

A coding system was selected on the basis of two factors: (1) responses could be solicited from teachers on a quasi-anonymous basis; (2) a numbered coding system would facilitate the recording of returned materials as well as the administration of follow-up materials.

During the month of March, 1957, copies of the MTAI and the out-of-school activities questionnaire were administered by mail to all teachers included in the study. A covering letter⁵ explaining the purpose of the investigation and requesting cooperation in completing the forms was forwarded with the research materials.

Four weeks after the initial mailing, completed forms had been returned by 509 subjects or 57.84 per cent of the sample. A follow-up letter, along with copies of both instruments, was mailed at this time to the 371 teachers who had not yet responded.

Three weeks after the first follow-up mailing, 189 more subjects had

⁴Indiana School Directory, 1955-1956, 543 pp.

⁵Since this study was carried out in conjunction with an investigation sponsored by the U. S. Office of Education, covering letters were signed by the project director of the government research. Copies of letters used in all three mailings will be found in Appendix A.

returned completed forms. The cumulative percentage of returns at this point was 79.32. A final follow-up was conducted at this time, with both instruments, plus a brief covering letter, being mailed to the 182 remaining non-respondents.

At the end of June, 1957, approximately seven weeks after the final follow-up forms had been administered, returns were considered final. In response to the final follow-up effort, 40 teachers furnished completed data forms. The final cumulative percentage of returns was 83.87. Table 1 shows the number of materials mailed, the number of returns, the cumulative percentage of returns for each mailing, as well as the total number of replies.

TABLE 1. DESCRIPTION OF MAILINGS AND RESPONSES

	Number mailed	Number returned	Cumulative per cent of returns
Initial mailing	330	509	57.84
First follow-up	371	139	79.32
Second follow-up	182	40	83.37
Total	1,433	733	83.87

Upon receipt, the answer sheets for the MTAI were hand scored. The returned out-of-school activities questionnaires were also processed by hand. The questionnaires were scanned for answers which might need interpretation. Answers to each item were then keyed according to a simple coding system for the purposes of IBM punching.

MTAI scores, along with the data obtained from Form 35-A were coded and transferred to master sheets. These master sheets, with the keyed questionnaires, were then sent to the Indiana University Research Computing Center where the data were transferred to Hollerith cards for further processing and statistical treatment.

CHAPTER III

RESULTS

Results of the study will be presented in two major sections: (1) background data on the population sample, and (2) analyses of the relationships between the variables under consideration in the study.

The first section is not directly concerned with the central purpose of the investigation, i. e., determining the relationships between out-of-school activities and teacher attitude. A description of the composition of the obtained sample, however, was considered to be basic to a better understanding of the relationships to be analyzed in the second section. Of the 880 subjects originally specified as the research sample, 738, or 83.9 per cent, participated in the study by returning the research materials which had been mailed to them. These 738 respondents will hereafter be considered the research sample and will be described in the first section of the present chapter.

The second section will present the relationships between teacher attitude and (1) sex, (2) salary, (3) teaching level, (4) out-of-school activities, and (5) expressed satisfaction with teaching as a career. These relationships were tested for significance by means of the chi square statistic.

In the second section tables are presented which contain percentage distributions of teachers' MTAI scores according to each of the variables under consideration. The categories representing these variables in the tables were determined primarily from the categories used in the questionnaire. In some instances these categories were re-grouped according to the requirements of the chi square statistic. Chi square values were computed from frequencies, not from the per cents reported in the tables.

The number of respondents considered in a given analysis may vary from the obtained sample of 738. Unless otherwise specified, these minor fluctuations are accounted for by the fact that data were not reported for teachers who omitted one or more items in the questionnaire.

Background Data

In order to describe the composition of the obtained sample of 738 participating teachers, background data will be presented concerning sex, age, marital status, salary, teaching level, teaching experience, enrollment of school in which respondents were currently teaching, population of community

in which respondents were currently teaching, religious affiliation, and parental background.

Sex. The ratio of female teachers to male teachers was approximately two-to-one. The percentage of female subjects was 69.1 while the percentage of male subjects was 30.9.

Age. Almost two thirds of the sample were in the 20 to 29 year age group. The percentages for five age groups were: 20 to 29, 62.6 per cent; 30 to 39, 11.7 per cent; 40 to 49, 11.5 per cent; 50 to 59, 11.7 per cent; and 60 or over, 2.6 per cent.

Marital status. Slightly less than two thirds (63.9 per cent) of the participating teachers were married. About one third (30.8 per cent) of the subjects were single. Of the remaining respondents, 1.8 per cent were divorced and 3.6 per cent were widowed.

Salary. Approximately three fourths of the subjects were earning a professional salary of between \$3,500 and \$4,500. The percentages for the five salary groups were: less than \$3,499, 8.3 per cent; \$3,500 to \$3,999, 34.4 per cent; \$4,000 to \$4,499, 40.5 per cent; \$4,500 to \$4,999, 11.3 per cent; and more than \$5,000, 5.6 per cent.

Teaching level. Subjects were fairly evenly distributed with respect to the grade levels in which they were teaching. The percentage of the sample which was engaged in senior teaching (grades 10, 11, 12) was 20.4. Of those teaching on the junior high level (grades 7, 8, 9) the percentage was 20.3. Teachers of the intermediate grades (grades 4, 5, 6) were represented by a percentage of 23.2. Thirty-three per cent of the respondents were primary teachers (grades 1, 2, 3). Only 3.1 per cent of the subjects were kindergarten teachers.

Teaching experience. As would be expected with the sample originally specified in the study, i. e., 1954 graduates of certain Indiana colleges, the majority of the respondents had less than three years of teaching experience. The proportion of those with more than three years of teaching experience may be accounted for by career teachers who had returned to the campus to complete requirements for the bachelor's degree. Almost 70 per cent (69.5) of the respondents had from none to three years teaching experience. Of those with four to seven years of teaching experience, the percentage was 7.9. Only 3.3 per cent of the respondents had between eight and 12 years of teaching experience. Almost 20 per cent (19.3) of the subjects possessed more than 12 years of teaching experience.

Enrollment of school in which respondents were currently teaching. An indication of the types of schools, according to size, in which respondents were currently teaching was obtained from the current pupil enrollments of subjects' schools. The percentage of subjects teaching in schools enrolling less than 250 was 15.2. Almost 30 per cent (29.7) of the sample was assigned to schools with enrollments of between 250 and 499. The percentage of respondents teaching in schools enrolling between 450 and 649 pupils was 23.1. Thirty-two per cent of the subjects taught in schools with enrollments of 650 or more.

Population of community in which respondents were currently teaching. Slightly less than half (48.7 per cent) of the respondents were teaching in communities with populations of less than 10,000. Of those teaching in communities with populations between 10,000 and 49,999, the percentage was 23.2. Eight per cent of the sample was assigned to teaching positions in communities with populations between 50,000 and 124,999. Subjects teaching in cities of 125,000 or more population represented a percentage of 22.1.

Religious affiliation. The vast majority of respondents indicated protestant religious affiliations. The percentages for subjects' religious affiliations were: Protestant, 87.1 per cent; Roman Catholic, 10.5 per cent; other, 1.5 per cent; none, 0.8 per cent.

Parental background. An index of respondents' socioeconomic status while in college was provided by the principal occupation and yearly salary of the major wage earner in a subject's family during undergraduate college years. Subjects were fairly well divided with respect to parental salary. Over half (50.8 per cent) of the respondents reported that while they were in college the major wage earner in their families had an approximate yearly salary of between \$3,000 and \$6,000.

Analyses of the Relationships Between Selected Variables and Teachers' Attitudes Toward Pupil-Teacher Relations

In this section the relationships between teacher attitude, as measured by the MTAI, and selected variables will be analyzed. Tables presenting percentage distributions of all variables according to a five-category classification of the MTAI are offered for each relationship. The possible high to low range of scores on the MTAI, which is scored on a right minus wrong basis, is +150 to -150. The five categories of scores utilized in all analyses are (1) 150 to 61; (2) 60 to 21; (3) 20 to -19; (4) -20 to -59; and (5) -60 to -150.

A clarification of the meaning of "high" and "low" MTAI scores should be made at this point. The MTAI was empirically constructed on the basis of its ability to ". . . discriminate sharply between teachers who have and those who do not have good rapport with pupils."¹ Within the limitations of the instrument's validity, then, teachers who score higher on the MTAI are most likely to establish "good rapport" with their pupils than those teachers who score lower on the MTAI.

The authors of the MTAI present nine separate norms for scores of experienced teachers. These norms are based on such factors as size of school system, years of training, and subject taught. Scores obtained by subject on the MTAI were not compared with these published norms since subjects were not grouped according to size of school system, years of training, or subject taught. "High" and "low" scores, then, can be interpreted only generally in terms of a teacher's ability to establish rapport with pupils.

Background Variables

Sex. The sex of respondents was significantly related to scores obtained on the MTAI. As indicated in Table 2, female subjects tended to obtain higher MTAI scores than male subjects. This relationship was significant at the 0.01 level of confidence.

TABLE 2. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO SEX*

Sex	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
Male	227	6.6	26.0	34.3	26.4	6.6
Female	508	9.4	34.2	36.3	16.7	2.8

*Chi square = 18.50, df = 4, p is less than 0.01.

¹Cook, W.W.; Leeds, C.H.; and Callis, Robert, Minnesota Teacher Attitude Inventory Manual, p. 4.

The determination of a significant relationship between sex and MTAI scores in the present study may be contrasted with studies presented by the authors of the MTAI in which little or no relationship was discerned between teachers' sex and MTAI scores.²

Salary. No significant relationship between teachers' MTAI scores and their salaries was found. An inspection of Table 3 reveals that while minor divergences existed in the scores of respondents with differing salaries, the two salary groups with the largest number of subjects, i. e., \$3,500 to \$3,999 and \$4,000 to \$4,499, were relatively similar with respect to their scores on the MTAI.

TABLE 3. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO SALARY*.

Salary	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
Less than \$3,499	61	8.1	31.1	21.3	34.4	4.9
\$3,500 to \$3,999	253	5.9	32.8	37.5	19.0	4.7
\$4,000 to \$4,499	298	11.0	29.5	37.9	18.1	3.3
\$4,500 to \$4,999	83	7.2	31.3	34.9	21.7	4.8
More than \$4,999	41	9.8	41.4	39.0	9.8	7

*Chi square = 22.50, df = 16, p is greater than 0.10.

Teaching level. An examination of Table 4 reveals that teaching level was significantly related to teachers' attitudes toward pupil-teacher relations. It may be noted that teachers in the lower instructional levels, i. e., kindergarten,

²Ibid., p. 12.

primary, and intermediate, tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

TABLE 4. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO TEACHING LEVEL*.

Teaching Level	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	- 60 to -150
Kindergarten	23	34.8	34.8	26.1	4.3	0
Primary (1, 2, 3)	242	11.6	39.2	33.9	13.2	2.0
Intermediate (4, 5, 6)	170	8.2	36.4	37.5	15.9	4.1
Junior high (7, 8, 9)	149	4.0	22.8	39.6	29.5	4.0
Senior high (10, 11, 12)	150	4.7	22.7	33.0	26.7	7.3

*Chi square = 70.36, df = 16, p is less than 0.01.

This finding of a significant relationship between teaching level and teacher attitude is in accord with the results of preliminary studies conducted by the authors of the MTAI.³

Teachers' Expressed Satisfaction with Teaching as a Career

Satisfaction with teaching as a career. An inspection of Table 5 reveals that there was a significant relationship between teacher attitude and respondents' answers to the question: "Do you believe that, if you had the choice to make over again, you would decide again upon teaching as a career?"

³Ibid., p. 12.

Teachers who evidenced satisfaction with teaching as a career by responding affirmatively to the question obtained higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

TABLE 5. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO RESPONSES TO THE QUESTION: 'DO YOU BELIEVE THAT, IF YOU HAD THE CHOICE TO MAKE OVER AGAIN, YOU WOULD DECIDE UPON TEACHING AS A CAREER?'*

Would you decide again upon teaching as a career?	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
Definitely yes	344	11.3	36.9	34.4	14.8	2.6
Probably yes	231	6.0	30.3	39.0	22.5	2.1
Uncertain	78	5.1	25.6	34.6	25.6	9.0
Probably not	56	5.3	21.4	43.0	21.4	8.9
Definitely not	20	10.0	15.0	25.0	40.0	10.0

*Chi square = 41.39, df = 16, p is less than 0.01.

TABLE 7. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO ATTENDANCE AT STATE, REGIONAL, AND/OR NATIONAL PROFESSIONAL MEETINGS DURING THE SCHOOL YEAR
In-Service Education Activities

Current enrollment in college courses for credit. As indicated in Table 6, there was no significant relationship between teacher attitude and whether or not a teacher was currently enrolled in a college course for credit. Subjects who were currently enrolled in college courses for credit did not tend to obtain higher scores on the MTAI.

None	24	12.5	20.8	29.1	27.5	0
1 or 2 meetings	407	6.1	31.7	34.6	22.9	4.4
3 or more meetings	228	10.0	32.8	39.0	14.0	5.9
More than 4 meetings	72	16.7	31.9	36.1	12.5	2.8

*Chi square = 24.34, df = 12, p is less than 0.05.

TABLE 6. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO CURRENT ENROLLMENT IN COLLEGE COURSES FOR CREDIT*.

Currently enrolled in college courses for credit	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
Yes	206	12.1	31.0	32.0	20.9	3.9
No	525	7.2	32.1	37.3	19.2	4.0

*Chi square = 5.54, df = 4, p is greater than 0.10.

Attendance at professional meetings. There was a significant relationship between teacher attitude and teachers' attendance at state, regional, and/or national professional meetings during the school year. An examination of Table 7 reveals that there was a tendency for those respondents who attend more professional meetings to score higher on the MTAI. The relationship was significant at the 0.05 level of confidence.

TABLE 7. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO ATTENDANCE AT STATE, REGIONAL, AND/OR NATIONAL PROFESSIONAL MEETINGS DURING THE SCHOOL YEAR*.

State, regional and/or national professional meetings attended	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
None	24	12.5	20.8	29.1	37.5	0
1 or 2 meetings	407	6.1	31.7	34.8	22.9	4.4
3 or more meetings	228	10.0	32.9	39.0	14.0	3.9
More than 4 meetings	72	16.7	31.9	36.1	12.5	2.8

*Chi square = 24.34, df = 12, p is less than 0.05.

Attendance at local educational organization meetings. Teacher attitude was significantly related to teachers' attendance at local educational organization meetings during the school year. Table 8 reveals that teachers who attend more meetings of this type tended to score higher on the MTAI. The relationship was significant at the 0.01 level of confidence.

TABLE 8. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO ATTENDANCE AT LOCAL EDUCATIONAL ORGANIZATION MEETINGS DURING THE SCHOOL YEAR*.

Local educational organization meetings attended	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
None	51	3.9	17.6	39.2	31.3	7.8
1 to 3 meetings	281	6.8	28.1	38.4	23.4	6.8
4 to 6 meetings	190	8.4	32.6	34.7	18.9	5.2
7 to 9 meetings	101	12.9	47.5	26.7	11.9	1.0
10 to 12 meetings	52	7.7	32.7	42.3	13.4	3.8
More than 12 meetings	50	16.0	32.0	36.0	10.0	6.0

*Chi square = 41.92, df = 20, p is less than 0.01.

Professional periodicals read during the school year. The number of professional periodicals read by teachers during the school year was significantly related to teacher attitude. The percentage distribution presented in Table 9 indicates that those subjects who read more professional literature during the school year tended to obtain higher scores on the MTAI. This relationship was significant at the 0.01 level of confidence.

3 or 4 books	215	0.9	31.0	41.7	10.4	2.8
5 or 6 books	72	13.0	34.7	31.9	13.2	1.3
7 or 8 books	14	21.4	39.3	23.3	14.3	1.1
More than 8 books	27	12.2	25.9	32.3	24.3	1.0

*Chi square = 37.51, df = 20, p is less than 0.05.

TABLE 9. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO NUMBER OF PROFESSIONAL PERIODICALS READ DURING THE SCHOOL YEAR*.

Number of professional periodicals read	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
None	13	7.7	7.7	23.0	53.8	7.7
1 or 2 periodicals	266	5.2	25.6	40.2	23.3	5.6
3 or 4 periodicals	322	7.8	37.9	35.0	16.4	2.8
More than 4 periodicals	131	16.8	32.0	31.2	17.6	2.2

*Chi square = 42.22, df = 12, p is less than 0.01.

Professional books read during the school year. Teacher attitude was significantly related to the number of professional books read by subjects during the school year. Teachers who read more professional books tended to obtain higher scores on the MTAI, as will be seen in Table 10. This relationship was significant beyond the 0.05 level of confidence, almost reaching a significance level of 0.01.

TABLE 10. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO NUMBER OF PROFESSIONAL BOOKS READ DURING THE SCHOOL YEAR*.

Number of professional books read	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
None	118	8.4	28.0	33.9	22.0	7.6
1 or 2 books	342	5.0	33.3	36.2	21.9	3.5
3 or 4 books	155	9.0	31.0	41.9	15.4	2.6
5 or 6 books	72	18.0	34.7	31.9	13.9	1.3
7 or 8 books	14	21.4	28.6	28.6	14.2	7.1
More than 8 books	27	22.2	25.9	22.2	22.2	7.4

*Chi square = 37.51, df = 20, p is less than 0.05.

TABLE 12. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES
ACCORDING TO PURPOSE OF OUT-OF-SCHOOL EMPLOYMENT*

Out-of-School Employment

Per cent of MTAI scores

Out-of-school employment. Table 11 summarizes data for teachers' MTAI scores according to number of hours spent per week in out-of-school employment. It may be seen that the vast majority of respondents, 566 in all, reported that they engaged in no type of employment activity other than teaching. There was no significant relationship between teacher attitude and the number of hours spent per week by teachers in out-of-school employment.

Added income 95 2.3 30.5 28.4 35.2 8.4

TABLE 11. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES
ACCORDING TO NUMBER OF HOURS SPENT PER WEEK IN OUT-
OF-SCHOOL EMPLOYMENT*.

Number of hours spent per week in out-of-school employ- ment	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	- 60 to -150
None	566	9.3	32.1	35.9	18.9	3.7
Less than 5 hours	46	4.3	37.0	26.0	28.2	4.3
5 to 9 hours	58	8.6	25.9	34.4	24.1	6.9
More than 9 hours	52	5.8	28.9	42.3	19.2	3.8

*Chi square = 8.62, df = 12, p is greater than 0.10.

Purpose of out-of-school employment. Of those subjects who indicated that they were employed in out-of-school work, 148 cited a purpose for this out-of-school employment. Ninety-one indicated that this purpose was for added income. Thirty-one indicated that this purpose was in the nature of experience for professional growth. The purposes cited by the remaining respondents were of a miscellaneous nature. The relationship between teacher attitude and purpose of teachers' out-of-school employment was not significant. The data are more completely summarized in Table 12.

significant at the 0.01 level of confidence.

TABLE 12. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO PURPOSE OF OUT-OF-SCHOOL EMPLOYMENT*.

Purpose of out-of-school employment	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
Added income	95	7.3	30.5	28.4	25.2	8.4
Experience for professional growth	31	9.7	29.0	32.2	22.6	6.4
Other	22	9.0	22.7	36.3	31.8	0

*Chi square = 3.30, df = 8, p is greater than 0.10.

School-Related Activities

Time spent on preparation for teaching. Table 13 summarizes data which indicate that the amount of time spent each week by teachers in preparing for teaching was not significantly related to teacher attitude. The proportions of scores on the MTAI remain relatively constant for each of the four categories for time spent on preparation for teaching.

Membership on educational committees. Teacher attitude was significantly related to teachers' membership on educational committees outside regular school hours. Subjects who were members of more such educational committees tended to score higher on the MTAI, as will be noted in Table 14. The relationship was significant at the 0.05 level of confidence.

Attendance at P. T. A. meetings. Teacher attitude was significantly related to teachers' attendance at Parent-Teacher Association meetings during the school year. The percentage distribution presented in Table 15 indicates that teachers who attend more P. T. A. meetings tended to score higher on the MTAI than those who attend fewer P. T. A. meetings. The relationship was significant at the 0.01 level of confidence.

TABLE 13. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO NUMBER OF HOURS SPENT EACH WEEK IN PREPARATION FOR TEACHING*.

Number of hours spent on preparation for teaching	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	- 60 to -150
0 to 5 hours	274	6.9	31.3	35.0	21.5	5.1
6 to 10 hours	301	9.6	30.2	37.2	19.2	3.7
11 to 15 hours	107	8.4	36.4	37.3	15.0	2.8
More than 15 hours	44	13.6	31.8	29.5	22.7	2.2

*Chi square = 7.84, df = 12, p is greater than 0.10.

TABLE 14. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO MEMBERSHIP ON EDUCATIONAL COMMITTEES OUTSIDE REGULAR SCHOOL HOURS*.

Number of educational committees	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	- 60 to -150
None	253	6.7	28.0	35.1	23.7	6.3
1 or 2 committees	396	9.8	33.3	34.8	19.1	2.8
More than 2 committees	74	8.1	36.4	43.2	9.4	2.7

*Chi square = 15.73, df = 8, p is less than 0.05.

TABLE 15. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO ATTENDANCE AT P. T. A. MEETINGS DURING THE SCHOOL YEAR*.

Number of P. T. A. meetings attended	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
None	98	3.0	24.4	33.7	32.7	6.1
1 or 2 meetings	84	3.6	19.0	41.7	27.3	8.3
3 or 4 meetings	126	7.9	34.1	28.6	23.0	6.3
More than 4 meetings	422	11.1	34.8	37.7	14.4	1.9

*Chi square = 48.58, df = 12, p is less than 0.01.

Home visitations and parent conferences. Teacher attitude was significantly related to the number of hours spent by subjects during the school year in home visitations and parent conferences. There was a tendency for those teachers who spend more time in such activities to obtain higher MTAI scores, as will be seen in Table 16. The relationship was significant at the 0.01 level of confidence.

TABLE 16. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO NUMBER OF HOURS SPENT DURING THE SCHOOL YEAR IN HOME VISITATIONS AND PARENT CONFERENCES*.

Number of hours spent in home visitations and parent conferences	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
None	114	3.5	26.3	33.3	30.7	6.1
1 to 9 hours	361	6.6	30.7	38.5	20.2	3.9
10 to 24 hours	159	11.3	35.8	34.0	16.3	2.5
More than 24 hours	88	17.0	35.2	34.0	10.2	3.4

*Chi Square = 31.61, df = 12, p is less than 0.01.

Spectator attendance at school events. Teacher attitude was significantly related to the number of hours spent by subjects during the school year as spectators at school athletic contests, musical programs, plays, etc. An inspection of Table 17 reveals an inverse relationship between scores on the MTAI and number of hours spent by teachers as spectators at school events. There was a tendency for those who spend more time as spectators at school events to score lower on the MTAI. The relationship was significant at the 0.05 level of confidence.

TABLE 17. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO HOURS SPENT DURING THE SCHOOL YEAR AS A SPECTATOR AT SCHOOL EVENTS*.

Number of hours spent as a spectator at school events	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
None	33	9.0	30.3	30.3	21.2	9.0
1 to 9 hours	255	11.8	32.5	36.9	17.2	1.6
10 to 24 hours	174	7.4	35.6	35.6	14.9	6.3
25 to 49 hours	106	9.4	34.9	34.0	18.9	2.8
50 to 100 hours	88	1.1	20.4	42.0	31.8	4.5
More than 100 hours	63	6.3	28.6	36.5	22.2	6.3

*Chi Square = 35.02, df = 20, p is less than 0.05.

Non-Professional Activities Involved in Daily Living

Number of hours spent doing housework. Teacher attitude was significantly related to the number of hours spent by subjects each day doing housework. An inspection of Table 18 will reveal that those respondents who engaged in more housework tended to score higher on the MTAI. The relationship was significant at the 0.01 level of confidence.

TABLE 18. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO NUMBER OF HOURS SPENT PER DAY DOING HOUSEWORK*.

Number of hours spent per day doing housework	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
None	102	6.9	27.4	35.2	34.5	5.9
Less than 1 hour	142	4.2	23.9	35.9	33.0	2.8
1 or 2 hours	287	9.8	32.8	37.6	15.7	4.1
3 or 4 hours	145	11.0	38.6	33.1	13.8	3.4
More than 4 hours	43	11.6	37.2	32.6	14.0	4.7

*Chi square = 33.23, df = 16, p is less than 0.01.

Number of hours of nightly sleep. Teacher attitude was not significantly related to the number of hours of sleep subjects had each night. Table 19 reveals that there was no tendency for those who slept more than eight hours to score either higher or lower on the MTAI. The vast majority of respondents indicated that they slept between seven and eight hours per night.

TABLE 19. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO NUMBER OF HOURS OF SLEEP EACH NIGHT*.

Number of hours of sleep each night	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
Less than 6 hours	73	9.6	26.0	39.7	21.9	2.7
7 to 8 hours	615	8.1	33.3	34.8	19.5	4.2
More than 8 hours	43	9.3	20.9	46.5	20.9	2.3

*Chi square = 5.77, df = 8, p is greater than 0.10.

TABLE 21. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES
ACCORDING TO NUMBER OF HOURS SPENT EACH DAY

Number of hours spent viewing television. A significant relationship was found to exist between teacher attitude and the number of hours spent by respondents each day viewing television. Teachers who spend more time viewing television tended to obtain higher scores on the MTAI, as will be seen in Table 20. The relationship was significant at the 0.01 level of confidence.

TABLE 20. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES
ACCORDING TO NUMBER OF HOURS SPENT EACH DAY
VIEWING TELEVISION*.

Number of hours spent each day viewing television	Number	Per cent of MTAI scores				
		150 to 31	60 to 21	20 to -19	-20 to -59	-60 to -150
None	80	6.2	27.5	28.8	36.2	1.2
Less than 1 hour	164	10.3	27.4	42.7	15.2	4.2
1 or 2 hours	378	9.0	34.3	35.4	18.0	3.1
More than 2 hours	108	6.4	32.4	32.4	21.2	7.4

*Chi square = 26.48, df = 12, p is less than 0.01.

Number of hours spent listening to the radio. Teacher attitude was not significantly related to the number of hours spent by subjects each day listening to the radio. Table 21 presents data which indicate there were no particular data tendencies evidenced in this analysis.

Number of hours spent reading non-professional literature. Table 22 presents the percentage distribution of teachers' MTAI scores according to number of hours devoted each day to reading non-professional literature, including newspapers, magazines, books, etc. There was no significant relationship between teacher attitude and the amount of time spent reading non-professional literature. Teachers who read more non-professional literature did not tend to obtain higher MTAI scores than those who read less non-professional literature.

TABLE 21. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO NUMBER OF HOURS SPENT EACH DAY LISTENING TO THE RADIO*.

Number of hours spent each day listening to the radio	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	- 60 to -150
None	123	8.1	35.0	31.7	23.6	1.6
Less than 1 hour	399	9.2	30.8	36.6	18.2	5.0
1 or 2 hours	177	6.2	31.6	37.2	21.4	3.3
More than 2 hours	33	12.1	33.3	39.3	12.1	3.0

*Chi square = 8.90, df = 12, p is greater than 0.10.

TABLE 22. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO NUMBER OF HOURS DEVOTED EACH DAY TO READING NON-PROFESSIONAL LITERATURE*.

Number of hours devoted each day to reading non-professional literature	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	- 60 to -150
0 to 1 hour	330	9.3	26.7	38.4	20.9	4.5
1 or 2 hours	365	7.7	35.6	34.2	18.6	3.8
More than 2 hours	36	11.1	38.9	30.6	19.4	0

*Chi square = 9.21, df = 8, p is greater than 0.10.

Time for Out-of-School Activities

Time for out-of-school activities. There was no significant relationship between teacher attitude and responses to the question: "Do you believe that there is enough time, free from professional obligations, to engage in those out-of-school activities in which you are interested?" Table 23 presents the

percentage distribution of teachers' MTAI scores according to responses to the question. There were no observable data tendencies evident in this analysis.

TABLE 23. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO RESPONSES TO THE QUESTION: "DO YOU BELIEVE THAT THERE IS ENOUGH TIME, FREE FROM PROFESSIONAL OBLIGATIONS, TO ENGAGE IN THOSE OUT-OF-SCHOOL ACTIVITIES IN WHICH YOU ARE INTERESTED?"*

Do you believe there is sufficient time to engage in out-of-school activities?	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
Definitely yes	94	13.8	39.3	28.7	16.0	21.0
Probably yes	263	9.5	33.0	33.8	19.3	4.1
Uncertain	73	8.2	31.5	34.2	21.9	1.1
Probably not	167	4.8	29.9	37.7	22.7	4.8
Definitely not	122	7.3	28.7	41.0	19.7	3.2

*Chi square = 14.25, df = 16, p is greater than 0.10.

Organizational Activities

In subsequent analyses an effort was made to determine the relationships between teacher attitude and various types of out-of-school activities according to extent of participation in those activities. The questionnaire utilized to obtain the data for these analyses provided the opportunity for respondents to indicate "participate frequently," "participate seldom," or "do not participate" for each of 108 activities and organizations listed in the questionnaire. Since an index of extent of participation was required for each of the several types of activities, a simple weighted point system was devised. The weighting system is explained in a footnote appended to each of the following tables where it applies.⁴

⁴An itemization of the activities or organizations included under a particular heading is presented in the questionnaire in Appendix B.

A space was provided for respondents to cite activities or organizations other than those mentioned in the questionnaire. Such additional responses, were, however, few in number.

Religious organizations. Table 24 summarizes the percentages of teachers' MTAI scores according to the extent of their participation in religious organizations, such as church, Sunday school, choir, etc. The relationship between these two variables was significant at the 0.10 level of confidence. There was a slight inverse relationship present in this analysis, with teachers who participated to a greater extent in religious organizations scoring somewhat lower on the MTAI.

TABLE 24. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN RELIGIOUS ORGANIZATIONS*.

Extent of participation in religious organizations**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 1 point	115	12.1	34.8	31.3	17.3	4.3
2 to 3 points	298	9.0	31.5	35.9	19.4	4.0
More than 3 points	311	3.5	31.8	39.2	21.5	3.9

*Chi square = 13.86, $df = 8$, p is less than 0.10.

**Extent of participation was determined by a subject's total responses for four religious organizations according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Service organizations. An examination of Table 25 reveals that a relationship significant at the 0.10 level of confidence was found between teacher attitude and the extent of teachers' participation in service organizations, such as Rotary, Lions, Kiwanis, etc. There was a slight tendency for teachers who participated to a greater extent in service organizations to obtain higher scores on the MTAI.

TABLE 25. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN SERVICE ORGANIZATIONS*.

Extent of participation in service organizations**.	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	- 60 to -150
0 to 1 point	514	8.1	29.6	34.8	23.3	4.0
2 to 3 points	186	8.6	35.4	36.6	15.0	4.3
More than 3 points	41	12.1	36.6	43.9	7.3	0

*Chi square = 13.48, df = 8, p is less than 0.10.

**Extent of participation was determined by a subject's total responses for nine service organizations according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Professional organizations. Teacher attitude was significantly related to the extent of teachers' participation in professional organizations, such as adult extension classes, American Association of University Women, etc. Teachers who evidenced greater participation in professional organizations tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

Military-patriotic organizations. No significant relationship was found between teacher attitude and the extent of teachers' participation in military-patriotic organizations, such as American Legion, National Guard, Civil Defense, etc. As indicated in Table 27, respondents' participation in organizations of this type was minimal.

Youth groups. There was no significant relationship found between teacher attitude and the extent of subjects' participation in youth groups, such as Boy Scouts, Girl Scouts, Campfire Girls, etc. Only limited participation in youth groups was reported by respondents. There was no evidence that teachers who participated to a greater extent in youth group activity obtained higher scores on the MTAI, as is seen in Table 28.

TABLE 26. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN PROFESSIONAL ORGANIZATIONS*.

Extent of participation in professional organizations**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 1 point	182	3.8	26.9	33.5	30.2	5.4
2 to 3 points	363	9.0	33.6	35.8	17.3	4.1
More than 3 points	190	12.1	32.6	34.9	14.2	2.1

*Chi square = 27.07, df = 8, p is less than 0.01.

**Extent of participation was determined by a subject's total responses for four professional organizations according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

TABLE 27. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN MILITARY-PATRIOTIC ORGANIZATIONS*.

Extent of participation in military-patriotic organizations**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 1 point	682	8.8	32.0	36.8	18.6	3.8
2 to 3 points	43	4.7	30.2	23.2	37.2	4.7
More than 3 points	10	10.0	20.0	40.0	20.0	10.0

*Chi square = 11.51, df = 8, p is greater than 0.10.

**Extent of participation was determined by a subject's total responses for four military-patriotic organizations according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

TABLE 28. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN YOUTH GROUPS*.

Extent of participation in youth groups**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 1 point	638	8.3	32.6	35.4	19.9	3.8
2 to 3 points	86	9.3	28.0	39.5	17.4	5.8
More than 3 points	11	18.1	9.0	45.4	27.2	0

*Chi square = 6.05, df = 8, p is greater than 0.10.

**Extent of participation was determined by a subject's total responses for five youth groups according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Fraternal orders. No significant relationship was found to exist between teacher attitude and the extent of teachers' participation in fraternal orders, such as Elks, Moose, Masons, etc. There was no tendency for teachers who participated to a greater extent in such organizations to obtain higher MTAI scores.

TABLE 29. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN FRATERNAL ORDERS*.

Extent of participation in fraternal orders**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 1 point	656	9.1	31.5	35.5	19.8	4.0
2 to 3 points	59	3.3	25.4	42.3	23.7	5.0
More than 3 points	11	9.0	18.1	63.6	9.0	0

*Chi square = 7.95, df = 8, p is greater than 0.10.

**Extent of participation was determined by a subject's total responses for five fraternal orders according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Relief-welfare organizations. No significant relationship was found between teacher attitude and the extent of teachers' participation in relief-welfare organizations, such as Red Cross, Cancer Society, Heart Foundation, etc. There was a slight tendency for those who reported greater participation in such organizations to score higher on the MTAI.

TABLE 30. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN RELIEF-WELFARE ORGANIZATIONS*.

Extent of participation in relief-welfare organizations**	Number	Per cent of MTAI scores				
		150 to 61	60 to 20	20 to -19	-20 to -59	-60 to -150
0 to 1 point	619	8.0	31.7	35.2	20.8	4.2
2 to 3 points	61	11.4	26.2	45.9	14.8	1.6
More than 3 points	54	11.1	37.0	35.1	13.0	3.7

*Chi square = 7.35, df = 8, p is more than 0.10.

**Extent of participation was determined by a subject's total responses for seven relief-welfare organizations according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Leisure organizations. As seen in Table 31, there was no significant relationship found to exist between teacher attitude and the extent of teachers' participation in leisure organizations, such as dramatics club, country club, band, etc. There was a slight tendency for those teachers who reported the greatest participation (more than 3 points) in leisure organizations to score higher on the MTAI.

TABLE 31. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN LEISURE ORGANIZATIONS*.

Extent of participation in leisure organizations**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	- 60 to -150
0 to 1 point	505	7.1	31.2	36.6	20.6	4.5
2 to 3 points	186	11.2	29.0	38.1	18.2	3.2
More than 3 points	44	13.6	47.7	20.4	15.9	2.2

*Chi square = 12.89, df = 8, p is greater than 0.10.

**Extent of participation was determined by a subject's total responses for nine leisure organizations according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Sports

Individual sports. No significant relationship was found to exist between teacher attitude and the extent of teachers' participation in individual sports, such as howling, golf, swimming, etc. Table 32 reveals that, although there was a considerable degree of participation in individual sports reported by respondents, teachers who evidenced more participation did not tend to score higher on the MTAI.

Team sports. No significant relationship was found to exist between teacher attitude and the extent of teachers' participation in team sports, such as soft ball, basketball, baseball, etc. The majority of respondents participated in team sports only to a limited extent. Table 33 reveals that there was no tendency for subjects who reported more participation in team sports to score higher on the MTAI.

TABLE 32. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN INDIVIDUAL SPORTS*.

Extent of participation in individual sports**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 3 points	375	6.7	30.9	38.6	19.4	4.2
4 to 7 points	196	13.8	34.7	29.6	18.3	3.6
8 to 11 points	104	5.8	32.7	35.6	21.1	4.8
12 to 15 points	37	10.8	29.7	40.5	18.9	0
More than 15 points	22	4.6	18.1	40.9	31.8	4.6

*Chi square = 18.45, df = 16, p is greater than 0.10.

**Extent of participation was determined by a subject's total responses for 16 individual sports according to the following scale: Participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

TABLE 33. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN TEAM SPORTS*.

Extent of participation in team sports**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 1 point	589	8.7	33.0	36.2	18.3	3.7
2 to 3 points	92	12.0	28.2	31.5	23.9	4.3
More than 3 points	55	1.8	23.6	41.8	27.2	5.4

*Chi square = 10.35, df = 8, p is greater than 0.10.

**Extent of participation was determined by a subject's total responses for four team sports according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Spectator sports. There was no significant relationship found to exist between teacher attitude and the extent of teachers' participation in spectator sports, such as football, boxing, racing, etc. Table 34 reveals that there was no tendency for subjects who participated to a greater extent in spectator sports to score higher on the MTAI.

TABLE 34. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN SPECTATOR SPORTS*.

Extent of participation in spectator sports**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 1 point	202	9.4	31.7	35.1	19.3	4.4
2 to 3 points	170	10.0	33.5	36.4	17.6	2.3
4 to 5 points	133	12.0	30.8	36.0	15.8	5.2
6 to 7 points	115	5.2	33.0	33.0	21.7	6.9
More than 7 points	115	4.3	28.7	40.0	26.0	0.9

*Chi square = 19.01, df = 16, p is greater than 0.10.

**Extent of participation was determined by a subject's responses for eight spectator sports according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Entertainment Activities

Commercial entertainment. No significant relationship was found to exist between teacher attitude and the extent of teachers' participation in commercial entertainment activities, such as movies, night clubs, little theater, etc. There was no tendency for teachers who reported greater participation in such activities to obtain higher scores on the MTAI.

TABLE 35. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN COMMERCIAL ENTERTAINMENT ACTIVITIES*.

Extent of participation in commercial entertainment activities**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 1 point	181	9.3	31.4	38.1	16.6	4.4
2 to 3 points	225	8.0	30.6	31.1	24.9	5.3
4 to 5 points	172	7.6	34.9	39.0	15.7	2.9
6 to 7 points	90	7.8	34.4	34.4	21.1	2.2
More than 7 points	67	11.9	23.9	41.8	19.4	3.0

*Chi square = 14.30, df = 16, p is greater than 0.10.

**Extent of participation was determined by a subject's total responses for nine commercial entertainment activities according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Non-commercial entertainment. No significant relationship was found to exist between teacher attitude and the extent of teachers' participation in non-commercial entertainment activities, such as playing cards, motoring, picnicking, etc. There was an extremely slight tendency for those teachers who reported greater participation in such activities to score higher on the MTAI.

Hobbies

Hobbies. A significant relationship was found to exist between teacher attitude and the extent of teachers' participation in hobbies, such as photography, carving, ceramics, etc. Table 37 reveals that teachers who participate to a greater extent in hobbies tend to obtain higher scores on the MTAI. The relationship was significant at the 0.05 level of confidence.

TABLE 36. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN NON-COMMERCIAL ENTERTAINMENT ACTIVITIES*.

Extent of participation in non-commercial entertainment activities**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 3 points	29	10.3	27.6	37.9	13.8	10.3
4 to 7 points	78	10.2	24.3	38.4	21.8	5.1
8 to 11 points	167	6.0	28.1	38.9	22.1	4.8
12 to 15 points	245	7.8	32.7	36.3	20.0	3.2
More than 15 points	319	10.5	36.0	33.3	17.3	2.7

*Chi square = 13.87, df = 16, p is greater than 0.10.

**Extent of participation was determined by a subject's total responses for 12 non-commercial entertainment activities according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 Points.

TABLE 37. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO EXTENT OF PARTICIPATION IN HOBBIES*.

Extent of participation in hobbies**	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
0 to 3 points	379	7.3	27.1	38.0	22.4	5.0
4 to 7 points	252	8.7	36.1	33.3	18.2	3.6
8 to 11 points	70	6.6	42.9	34.2	12.9	1.4
More than 11 points	34	20.5	26.4	38.2	14.7	0

*Chi square = 21.85, df = 12, p is less than 0.05.

**Extent of participation was determined by a subject's total responses for 13 hobbies according to the following scale: participate frequently = 2 points; participate seldom = 1 point; do not participate = 0 points.

Teachers' Most Frequent Activities

It will be seen from Table 35 that the five activities cited were the most frequent. **Teachers' most frequent activities.** In the questionnaire administered to the sample, three spaces were provided for subjects to list, in descending order, those three activities which consumed the greatest amount of their out-of-school time. These responses were, upon receipt, grouped into 15 empirically determined categories. Analyses were made to determine the relationships between teacher attitude and (1) most frequent activity, (2) second most frequent activity, (3) third most frequent activity. None of these relationships was statistically significant.

All responses were then pooled, regardless of the first, second, or third position. Table 38 presents a percentage distribution of this aggregate. The relationship between teacher attitude and the total responses for teachers' three most frequent activities is significant at the 0.05 level of confidence.

TABLE 38. PERCENTAGE DISTRIBUTION OF TEACHERS' MTAI SCORES ACCORDING TO TOTAL RESPONSES FOR THREE MOST FREQUENT ACTIVITIES*.

Total responses for three most frequent activities	Number	Per cent of MTAI scores				
		150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150
Non-commercial entertainment	400	7.2	36.5	34.2	18.5	3.5
Housework	245	9.0	37.6	35.5	13.9	4.0
Hobbies	174	7.4	39.0	34.4	17.8	1.1
Preparation for school duties	165	10.9	28.4	33.3	25.4	1.8
Social engagements	156	7.7	32.7	35.2	20.5	3.8
Community organizations	139	7.1	33.8	33.0	20.1	5.8
Religious activities	129	4.7	31.0	38.8	21.7	3.9
Family responsibilities	105	12.3	34.2	33.3	18.0	1.9
Individual and team sports	95	11.6	29.4	35.8	20.0	3.1
Taking course work	84	17.9	28.6	32.1	15.4	6.0
Out-of-school employment	63	11.1	25.3	39.7	22.2	1.6
Travel	63	9.5	36.5	36.5	14.2	3.1
Spectator sports	55	3.6	12.7	50.9	29.0	3.6
Commercial entertainment	39	7.7	15.3	33.3	35.9	7.7
Sports for school	36	0	36.1	25.0	27.8	11.1

*Chi square = 82.66, df = 56, p is less than 0.05.

It will be seen from Table 38 that the five activities cited most frequently as either first, second, or third most frequent activity were the following: (1) non-commercial entertainment activities, (2) housework activities, (3) hobbies, (4) preparation for school duties, and (5) social engagements. An examination of Table 38, however, reveals no readily discernable data tendencies.

While it is true that educators have been vocal regarding the importance of leisure time in general, few studies have been conducted which specifically measure the out-of-school activities of teachers. Yet, even in the absence of rigorously conducted research on the topic, certain educators have assumed that a relationship exists between teachers' out-of-school activities and certain aspects of their professional performance. This assumption, for example, is implicitly present in the common administrative practice of allowing a teacher's out-of-school participation record to serve as a criterion, even though a minor, in the selection of job applicants for teaching positions. Another example of the assumption may be observed in the numerous teacher education textbooks which proclaim the value of certain leisure time activities, not only as aids to the personal happiness of a teacher, but also as a means of improving the effectiveness of a teacher's professional performance.

Summary

Purpose of the study. The present investigation was undertaken in order to supply evidence needed to evaluate educational practices such as those mentioned above. The study was designed to explore the relationship between teachers' out-of-school activities and their professional performance. The index of professional performance utilized in the study was a teacher's attitude toward pupil-teacher relations.

Variables. Two principal variables were under consideration in the study. The first of these was selected out-of-school activities of teachers. These activities were examined in terms of frequency of subjects' participation in particular activities or groups of activities. The second major variable considered in the investigation was teachers' attitudes toward pupil-teacher relations.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In recent years problems associated with leisure time utilization have claimed increasing attention from leaders in various fields. This attention is a direct outgrowth of the increased amounts of free time which science and technology have made available to our society. Although the technological advances which have benefited other occupations have not markedly reduced the number of hours necessary for teachers to perform their professional duties, the focus on wise use of out-of-work hours in other vocational pursuits has raised questions concerning the educational implications of leisure time.

While it is true that educators have been vocal regarding the importance of leisure time in general, few studies have been conducted which specifically concern the out-of-school activities of teachers. Yet, even in the absence of rigorously conducted research on the topic, certain educators have assumed that a relationship exists between teachers' out-of-school activities and certain aspects of their professional performance. This assumption, for example, is implicitly present in the common administrative practice of allowing a teacher's out-of-school participation record to serve as a criterion, even though a minor, in the selection of job applicants for teaching positions. Another example of the assumption may be observed in the numerous teacher education textbooks which proclaim the value of certain leisure time activities, not only as aids to the personal happiness of a teacher, but also as a means of improving the effectiveness of a teacher's professional performance.

Summary

Purpose of the study. The present investigation was undertaken in order to supply evidence needed to evaluate educational practices such as those mentioned above. The study was designed to explore the relationships between teachers' out-of-school activities and their professional performance. The index of professional performance utilized in the study was a teacher's attitude toward pupil-teacher relations.

Variables. Two principal variables were under consideration in the study. The first of these was selected out-of-school activities of teachers. These activities were examined in terms of frequency of subjects' participation in particular activities or groups of activities. The second major variable considered in the investigation was teachers' attitudes toward pupil-teacher relations.

Four further variables considered in the investigation were (1) teachers' sex, (2) teachers' instructional level, (3) teachers' salary, and (4) teachers' expressed satisfaction with teaching as a career.

Measures. One of the two chief measuring instruments utilized in the study was the Minnesota Teacher Attitude Inventory (MTAI). This instrument was empirically designed and validated to assess the particular attitudinal variable considered in this investigation, namely, teacher attitude toward pupil-teacher relations.

Scores made by teachers on the MTAI may be interpreted in terms of a teacher's ability to establish good rapport with pupils. Teachers who obtain higher scores on the MTAI are more likely to establish good rapport with their pupils than those teachers who score lower on the MTAI.

The other principal measuring instrument used in the study was a questionnaire designed to obtain information concerning the out-of-school activities of teachers.

Data concerning the variables of teachers' sex, instructional level, and salary were obtained from the records of the Indiana State Department of Public Instruction. Data regarding teachers' expressed satisfaction with teaching as a career were obtained from responses to an item included in the out-of-school activities questionnaire.

Research sample. The research sample utilized in the conduct of this study was composed of 1954 graduates of the 24 Indiana institutions of higher learning with standard accreditation for teacher education. Only those graduates who were professionally employed by the public schools of Indiana during the 1956-57 academic year were selected as subjects in the sample. The number of teachers originally specified as the research sample was 880.

Procedure. During the Spring of 1957, copies of the MTAI and the out-of-school activities questionnaire were administered by mail to all teachers included in the sample. Two separate follow-up mailings were employed for non-respondents. These three mailings involved distributing 1,433 sets of the two research instruments plus a covering letter. Of the original sample, 738 subjects or 83.9 per cent, returned completed research materials.

Relationships between teachers' out-of-school activities and their attitudes toward pupil-teacher relations were analyzed from the data supplied by these

738 teachers. The relationships were tested for significance by means of the chi square statistic.

Principal findings. The findings were based upon the analyses of relationships between teachers' attitudes toward pupil-teacher relations and the other variables considered in the investigation.

From the analyses of the relationships between background variables and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and teachers' professional salary.
2. Sex of respondents was significantly related to teacher attitude. There was a tendency for female teachers to obtain higher scores on the MTAI than male teachers. The relationship was significant at the 0.01 level of confidence.
3. Teachers' instructional level was significantly related to teacher attitude. Teachers in the lower grades tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

From the analysis of the relationship between teachers' expressed satisfaction with teaching as a career and teachers' attitudes toward pupil-teacher relations, it was found that:

1. Teachers' expressed satisfaction with teaching as a career was significantly related to teacher attitude. Teachers who expressed satisfaction with teaching as a career tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

From the analyses of the relationships between teachers' in-service educational activities and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and whether or not a teacher was currently enrolled in a college course for credit.
2. Teachers' attendance at state, regional, and/or national professional meetings during the school year was significantly related to teacher attitude. Subjects who attended more such professional meetings tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

3. Teachers' attendance at local educational organization meetings during the school year was significantly related to teacher attitude. Teachers who attended more local educational organization meetings tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

4. The number of professional periodicals read by teachers during the school year was significantly related to teacher attitude. Teachers who read more professional periodical literature tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

5. The number of professional books read by teachers during the school year was significantly related to teacher attitude. Teachers who read more professional books tended to obtain higher scores on the MTAI. The relationship was significant at the 0.05 level of confidence.

From the analyses of the relationships between out-of-school employment activities of teachers and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and: number of hours spent per week by teachers in out-of-school activity; purpose of teachers' out-of-school employment.

From the analyses of the relationships between teachers' school-related activities and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and the number of hours spent each week by teachers in preparing for teaching.

2. Teachers' membership on educational committees outside regular school hours was significantly related to teacher attitude. Teachers who were members of more educational committees tended to obtain higher scores on the MTAI. The relationship was significant at the 0.05 level of confidence.

3. Teachers' attendance at Parent-Teacher Association meetings was significantly related to teacher attitude. Teachers who attended more such meetings tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

4. The number of hours spent by teachers during the school year in parent conferences and home visitations was significantly related to teacher attitude. Teachers who spent more time in such activities tended to obtain higher MTAI scores. The relationship was significant at the 0.01 level of confidence.

5. The number of hours spent by teachers as spectators at school athletic contests, musical programs, plays, etc. was significantly related to teacher attitude. Teachers who spent more time as spectators at such school events tended to score lower on the MTAI. The relationship was significant at the 0.05 level of confidence.

From the analyses of the relationships between teachers' non-professional activities involved in daily living and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and: amount of teachers' nightly sleep; number of hours spent by teachers listening to the radio; amount of time spent by teachers reading non-professional literature.

2. The number of hours spent each day by teachers doing housework was significantly related to teacher attitude. Teachers who engaged in more housework tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

3. The number of hours spent daily by teachers viewing television was significantly related to teacher attitude. Teachers who spent more time viewing television tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

From the analyses of the relationship between teachers' opinions as to whether or not they had sufficient free time for out-of-school activities and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and teachers' opinions concerning whether or not they had sufficient free time for out-of-school activities.

From the analyses of the relationships between the extent of teachers' participation in organizational activities and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and the extent of teachers' participation in: military-patriotic organizations; youth groups; fraternal orders; relief-welfare organizations; leisure organizations.

2. The extent of teachers' participation in religious organizations was significantly related to teacher attitude. Teachers who participated to a

greater extent in religious organizations tended to score slightly lower on the MTAI. The relationship was significant at the 0.10 level of confidence.

3. The extent of teachers' participation in service organizations was significantly related to teacher attitude. Teachers who participated to a greater extent in service organizations tended to obtain higher scores on the MTAI. The relationship was significant at the 0.10 level of confidence.

4. The extent of teachers' participation in professional organizations was significantly related to teacher attitude. Teachers who participated to a greater extent in professional organizations tended to obtain higher scores on the MTAI. The relationship was significant at the 0.01 level of confidence.

From the analyses of the relationships between the extent of teachers' participation in sports activities and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and the extent of teachers' participation in: individual sports; team sports; spectator sports.

From the analyses of the relationships between the extent of teachers' participation in entertainment activities and teachers' attitudes toward pupil-teacher relations, it was found that:

1. No significant relationship was present between teacher attitude and the extent of teachers' participation in: commercial entertainment activities; non-commercial entertainment activities.

From the analysis of the relationship between teachers' participation in hobbies and teachers' attitudes toward pupil-teacher relations, it was found that:

1. The extent of teachers' participation in hobbies was significantly related to teacher attitude. Teachers who participated to a greater extent in hobby activities tended to obtain higher scores on the MTAI. The relationship was significant at the 0.05 level of confidence.

From the analysis of the relationship between the total responses for teachers' attitudes toward pupil-teacher relations, as measured by the MTAI, other indices of professional performance might reasonably have

teachers' three most frequent activities and teachers' attitudes toward pupil-teacher relations, it was found that:

The total responses for teachers' three most frequent activities was significantly related to teacher attitude. An inspection of the data, however, revealed no readily discernable tendencies. The relationship was significant at the 0.05 level of confidence.

Discussion of findings. The findings of the investigation reveal that professional performance was significantly related to certain out-of-school activities of teachers. Those activities most consistently related to professional performance were of a professional nature, e. g., in-service educational activities, school-related activities. The significant relationships obtained between other activities and professional performance were neither sufficiently numerous nor sufficiently systematic to warrant the conclusion that professional performance is significantly related to the whole range of a teachers' out-of-school activities.

A notion commonly held in educational circles is that teachers' professional performance is related in some manner to their participation in professional activities. The findings of the present study would seem to substantiate that notion.

The findings indicating that teachers' professional performance was not significantly related to the entire range of teachers' out-of-school activities would seem to cast some doubt on (1) the practice of urging teachers to participate in many out-of-school activities as a means of improving professional effectiveness, and (2) the administrative practice of using a teacher's activity participation record as a criterion in the selection of job applicants.

It should be noted that the findings of the study refer only to the administrative practice of utilizing participation records as an index of professional performance. The findings are not relevant to an administrator's use of participation records as an index of other factors, e. g., social acceptability, personality, etc.

These considerations are, of course, limited to a great extent by the design of the study. Only certain activities from a teacher's out-of-school life were considered. Analyses of other activities might have yielded different results. The index of professional performance utilized in the present study was teachers' attitudes toward pupil-teacher relations, as measured by the MTAI. Other indices of professional performance might conceivably have

The following recommendations were based upon the conclusions of this investigation:

yielded different results. Finally, the research design of the present study allowed only for the location of relationships between variables. The exact nature of those relationships, causal or otherwise, should not be inferred.

2. Educational administrators should reconsider their attitude of the majority of a teacher's out-of-school participation record as a criterion in the selection of job applicants.

Conclusions

With the limitations of the study in mind, the following conclusions appear to be warranted:

1. Certain out-of-school activities of teachers were significantly related to teachers' attitudes toward pupil-teacher relations. These activities were: attendance at professional meetings, local educational organization meetings, and Parent-Teacher Association meetings; number of professional books and periodicals read; time spent viewing television, doing housework, as a spectator at school events, and in home visitations and parent conferences; participation in religious organizations, service organizations, professional organizations, and hobbies; and membership on educational committees.

2. Certain out-of-school activities of teachers were not significantly related to teachers' attitudes toward pupil-teacher relations. These activities were: current enrollment in college courses for credit; out-of-school employment; purpose of out-of-school employment; amount of nightly sleep; time spent listening to the radio, preparing for teaching, and reading non-professional literature; participation in military-patriotic organizations, youth groups, fraternal orders, relief-welfare organizations, leisure organizations, team sports, individual sports, spectator sports, commercial entertainment, and non-commercial entertainment.

3. While teachers' professional salary was not significantly related to teachers' attitudes toward pupil-teacher relations; teachers' sex, teachers' instructional level, and teachers' expressed satisfaction with teaching as a career were significantly related to teachers' attitudes toward pupil-teacher relations.

Recommendations

The following recommendations were based upon the conclusions of this investigation:

1. Certain educators should reconsider their advocacy of teachers' participation in leisure activities as a means of improving professional performance. While it appears that some out-of-school activities, particularly those of a professional nature, were related to teacher attitude, the majority of a teacher's out-of-school activities were not.
2. Educational administrators should reconsider their utilization of the majority of a teacher's out-of-school participation record as a criterion in the selection of job applicants for teaching positions. The conclusions of the present study indicated that only certain types of participation were related to teacher attitude. This recommendation, of course, refers only to the practice of utilizing participation records as an index of professional performance.
3. Additional research should be undertaken to investigate the nature of the significant relationships determined in the present study. The research design of the present investigation was such that no causality could be deduced. However, by indicating the areas in which relationships exist between the out-of-school activities of teachers and their attitudes toward pupil-teacher relations, the present study has delineated avenues of approach for subsequent research. Such research should endeavor to determine the exact nature of the relationships which exist between teachers' professional performance and their out-of-school activities.

It should be noted that the above recommendations refer solely to relationships between teachers' professional performance as measured by the MTAI and participation in certain out-of-school activities. The results of the investigation should not be interpreted as negating other valuable purposes which teachers' participation in out-of-school activities may serve.

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APPENDIX

*Appendix A**Comparing Letters Accompanying Research Materials***APPENDIX**

Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

As part of a research project supported by the U. S. Office of Education, Department of Health, Education, and Welfare, a select number of Indiana teachers are being asked to provide information regarding out-of-school activities and teacher-pupil relations.

I know how busy you are, doing the many things expected of teachers, but may I ask that you take the time to complete the enclosed questionnaire and inventory. It should take only a few minutes of your time.

Appendix A

Do not forget to return the questionnaire and inventory to me. The accuracy of your responses will be carefully checked by one of our staff members.

Covering Letters Accompanying Research Materials

Please don't assume that enough other teachers will complete and return the data, so that yours won't matter. I am most anxious and you complete and return the enclosed questionnaire, and the inventory survey sheet. Would you also please return the attached inventory form?

I shall be most appreciative of your cooperation in rendering the time necessary for completion of the research project.

Sincerely yours,

Dr. Lloyd A. Starnes
Project Director

Enclosures

Institute of Educational Research
 Institute of Educational Research
 Indiana University
 Bloomington, Indiana

Mr. John Doe
 Anytown High School
 Anytown, Indiana

Dear Mr. Doe:

As part of a research project supported by the U. S. Office of Education, Department of Health, Education, and Welfare, a select number of Indiana teachers are being asked to provide information regarding out-of-school activities and teacher-pupil relations.

I know how busy you are, doing the many things expected of teachers, but may I ask that you take on one further task and complete the enclosed questionnaire and inventory. It should take only a few minutes of your time.

Do not place your name on any of the materials that you return. The anonymity of your response will be carefully guarded by use of a code number.

Please, don't assume that enough other teachers will complete and return the data, so that yours won't matter. I am most anxious that you complete and return the enclosed questionnaire, and the inventory answer sheet. Would you also please return the attitude inventory booklet?

I shall be most appreciative of your cooperation in supplying the data necessary for completion of the research project.

Sincerely yours,

Dr. Lloyd S. Standlee
 Project Director

Enclosures

Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

Several days ago I wrote to you regarding a research project supported by the U. S. Office of Education, Department of Health, Education and Welfare. The project involves an analysis of certain aspects of teacher education in Indiana. One phase of the research requires that a select number of Indiana teachers provide information regarding out-of-school activities and teacher-pupil relations.

Having been a teacher myself, I realize only too well how busy you must be, performing the many tasks required of teachers, but may I request a few moments of your time in order to complete the enclosed questionnaire and inventory.

It is crucial that you, as one of the selected teachers, complete and return the data. Please, don't assume that enough other teachers will have completed the forms; your response is essential.

Do not place your name on any of the materials. The anonymity of your response will be carefully guarded by use of a code number. In addition to returning the enclosed questionnaire and inventory answer sheet, will you please return the attitude inventory booklet?

I shall be most appreciative of your assistance in supplying the data necessary for completion of the research project.

Sincerely yours,

Dr. Lloyd S. Standlee
Project Director

Enclosures

Institute of Educational Research
Indiana University
Bloomington, Indiana

Mr. John Doe
Anytown High School
Anytown, Indiana

Dear Mr. Doe:

With the end of the academic year drawing near, the data-gathering phase of the research project in which you are a selected subject must be concluded. I am, therefore, making a final request that you complete and return the enclosed forms.

If the time required to complete the research materials has been a factor in your failure to return the forms, please use a "first impression" type of approach, which should reduce the time to an absolute minimum.

Yours very truly,

Dr. Lloyd S. Standlee
Project Director

Enclosures

OUT-OF-SCHOOL ACTIVITIES QUESTIONNAIRE

Because of lack of accurate information concerning the activities in which teachers engage during the time when school is not officially in session, this questionnaire has been designed in an effort to identify those activities. This does not include activity participation during the summer vacation period. Please check the questionnaire frankly and unreservedly. No attempt will be made to identify you on your paper in the final report. The number which appears at the top of this questionnaire is to be used only for purposes of tabulation.

Directions: Place check marks in the blank spaces according to the instructions. Note that in some of the items you are to choose only one answer, while in others you are to place as many check marks as are indicated.

SECTION I. Background Information

1. Check the level in which your school is organized.
a. ☐ Elementary
b. ☐ Junior High
c. ☐ Senior High

Appendix B

Out-of-School Activities Questionnaire

(COPY)

33800

2. During the summer vacation period, check the number of days you spent on each activity.
a. ☐ 1-14 days
b. ☐ 15-29 days
c. ☐ 30-44 days
d. ☐ 45-59 days
e. ☐ 60-74 days
f. ☐ 75-89 days
g. ☐ 90-104 days
h. ☐ 105-119 days
i. ☐ 120-134 days
j. ☐ 135-149 days
k. ☐ 150-164 days
l. ☐ 165-179 days
m. ☐ 180-194 days
n. ☐ 195-209 days
o. ☐ 210-224 days
p. ☐ 225-239 days
q. ☐ 240-254 days
r. ☐ 255-269 days
s. ☐ 270-284 days
t. ☐ 285-299 days
u. ☐ 300-314 days
v. ☐ 315-329 days
w. ☐ 330-344 days
x. ☐ 345-359 days
y. ☐ 360-374 days
z. ☐ 375-389 days
aa. ☐ 390-404 days
ab. ☐ 405-419 days
ac. ☐ 420-434 days
ad. ☐ 435-449 days
ae. ☐ 450-464 days
af. ☐ 465-479 days
ag. ☐ 480-494 days
ah. ☐ 495-509 days
ai. ☐ 510-524 days
aj. ☐ 525-539 days
ak. ☐ 540-554 days
al. ☐ 555-569 days
am. ☐ 570-584 days
an. ☐ 585-599 days
ao. ☐ 600-614 days
ap. ☐ 615-629 days
aq. ☐ 630-644 days
ar. ☐ 645-659 days
as. ☐ 660-674 days
at. ☐ 675-689 days
au. ☐ 690-704 days
av. ☐ 705-719 days
aw. ☐ 720-734 days
ax. ☐ 735-749 days
ay. ☐ 750-764 days
az. ☐ 765-779 days
ba. ☐ 780-794 days
bb. ☐ 795-809 days
bc. ☐ 810-824 days
bd. ☐ 825-839 days
be. ☐ 840-854 days
bf. ☐ 855-869 days
bg. ☐ 870-884 days
bh. ☐ 885-899 days
bi. ☐ 900-914 days
bj. ☐ 915-929 days
bk. ☐ 930-944 days
bl. ☐ 945-959 days
bm. ☐ 960-974 days
bn. ☐ 975-989 days
bo. ☐ 990-1004 days
bp. ☐ 1005-1019 days
bq. ☐ 1020-1034 days
br. ☐ 1035-1049 days
bs. ☐ 1050-1064 days
bt. ☐ 1065-1079 days
bu. ☐ 1080-1094 days
bv. ☐ 1095-1109 days
bw. ☐ 1110-1124 days
bx. ☐ 1125-1139 days
by. ☐ 1140-1154 days
bz. ☐ 1155-1169 days
ca. ☐ 1170-1184 days
cb. ☐ 1185-1199 days
cc. ☐ 1200-1214 days
cd. ☐ 1215-1229 days
ce. ☐ 1230-1244 days
cf. ☐ 1245-1259 days
cg. ☐ 1260-1274 days
ch. ☐ 1275-1289 days
ci. ☐ 1290-1304 days
cj. ☐ 1305-1319 days
ck. ☐ 1320-1334 days
cl. ☐ 1335-1349 days
cm. ☐ 1350-1364 days
cn. ☐ 1365-1379 days
co. ☐ 1380-1394 days
cp. ☐ 1395-1409 days
cq. ☐ 1410-1424 days
cr. ☐ 1425-1439 days
cs. ☐ 1440-1454 days
ct. ☐ 1455-1469 days
cu. ☐ 1470-1484 days
cv. ☐ 1485-1499 days
cw. ☐ 1500-1514 days
cx. ☐ 1515-1529 days
cy. ☐ 1530-1544 days
cz. ☐ 1545-1559 days
da. ☐ 1560-1574 days
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dc. ☐ 1590-1604 days
dd. ☐ 1605-1619 days
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ds. ☐ 1830-1844 days
dt. ☐ 1845-1859 days
du. ☐ 1860-1874 days
dv. ☐ 1875-1889 days
dw. ☐ 1890-1904 days
dx. ☐ 1905-1919 days
dy. ☐ 1920-1934 days
dz. ☐ 1935-1949 days
ea. ☐ 1950-1964 days
eb. ☐ 1965-1979 days
ec. ☐ 1980-1994 days
ed. ☐ 1995-2009 days
ee. ☐ 2010-2024 days
ef. ☐ 2025-2039 days
eg. ☐ 2040-2054 days
eh. ☐ 2055-2069 days
ei. ☐ 2070-2084 days
ej. ☐ 2085-2099 days
ek. ☐ 2100-2114 days
el. ☐ 2115-2129 days
em. ☐ 2130-2144 days
en. ☐ 2145-2159 days
eo. ☐ 2160-2174 days
ep. ☐ 2175-2189 days
eq. ☐ 2190-2204 days
er. ☐ 2205-2219 days
es. ☐ 2220-2234 days
et. ☐ 2235-2249 days
eu. ☐ 2250-2264 days
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hb. ☐ 3135-3149 days
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hf. ☐ 3195-3209 days
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hi. ☐ 3240-3254 days
hj. ☐ 3255-3269 days
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uh. ☐ 8255-8269 days
ui. ☐ 8270-8284 days
uj. ☐ 8285-8299 days
uk. ☐ 8300-8314 days
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up. ☐ 8375-8389 days
uq. ☐ 8390-8404 days
ur. ☐ 8405-8419 days
us. ☐ 8420-8434 days
ut. ☐ 8435-8449 days
uu. ☐ 8450-8464 days
uv. ☐ 8465-8479 days

OUT-OF-SCHOOL ACTIVITIES QUESTIONNAIRE

Because of lack of accurate information concerning the activities in which teachers engage during the time when school is not officially in session, this questionnaire has been designed in an effort to identify those activities. This does not include activity participation during the summer vacation period. Please check the questionnaire frankly and unreservedly. No attempt will be made to identify you or your paper in the final report. The number which appears at the top of this questionnaire is to be used only for purposes of tabulation.

Directions: Place check marks in the blank spaces according to the instructions. Note that in some of the items you are to choose only one answer, while in others you are to place as many check marks as are indicated.

SECTION I. Background Information

1. Check the level in which most of your teaching time is spent.

1) ☐ Kindergarten	3) ☐ Intermediate (4, 5, 6)
2) ☐ Primary (1, 2, 3)	4) ☐ Junior High (7, 8, 9)
	5) ☐ Senior High (10, 11, 12)

2. Check your marital status.

1) ☐ Single	3) ☐ Divorced
2) ☐ Married	4) ☐ Widowed

3. Check your religious affiliation, if any.

1) ☐ None	3) ☐ Protestant
2) ☐ Catholic	4) ☐ Jewish
	5) ☐ Other _____

4. During the majority of the period in which you were engaged in undergraduate college preparation, please indicate the primary type of occupation of the major wage earner (father, mother, guardian) in your family.

1) ☐ Professional person	4) ☐ Skilled worker or foreman
2) ☐ Proprietor, manager, or official	5) ☐ Semi-skilled worker
3) ☐ Clerk, salesman, or kindred worker	6) ☐ Unskilled worker

5. During this same period of undergraduate college preparation, what was the approximate yearly salary of the major wage earner in your family?

1) ☐ Less than \$3000	4) ☐ \$5000 to \$5999	7) ☐ \$8000 to \$8999
2) ☐ \$3000 to \$3999	5) ☐ \$6000 to \$6999	8) ☐ \$9000 to \$10,000
3) ☐ \$4000 to \$4999	6) ☐ \$7000 to \$7999	9) ☐ \$10,000 and over

SECTION II. In-Service Education

6. Are you currently enrolled in college courses for credit?
1) ☐ Yes 2) ☐ No
7. How many state, regional, and/or national professional meetings do you normally attend during the school year?
1) ☐ None 3) ☐ 3 or 4 meetings
2) ☐ 1 or 2 meetings 4) ☐ More than 4 meetings
8. How many local educational organization meetings other than the faculty meetings do you normally attend during the school year?
1) ☐ None 3) ☐ 4 to 6 meetings 5) ☐ 10 to 12 meetings
2) ☐ 1 to 3 meetings 4) ☐ 7 to 9 meetings 6) ☐ More than 12 meetings
9. How many professional periodicals do you normally read during the school year?
1) ☐ None 3) ☐ 3 or 4 periodicals
2) ☐ 1 or 2 periodicals 4) ☐ More than 4 periodicals
10. How many professional books do you normally read during the school year?
1) ☐ None 3) ☐ 3 or 4 books 5) ☐ 7 or 8 books
2) ☐ 1 or 2 books 4) ☐ 5 or 6 books 6) ☐ More than 8 books

SECTION III. Out-of-School Employment

11. How many hours per week, on the average, do you spend in out-of-school employment? Check one.
1) ☐ None 3) ☐ 5 to 9 hours 5) ☐ 15 to 20 hours
2) ☐ Less than 5 hours 4) ☐ 10 to 14 hours 6) ☐ 20 hours or more
12. If you are engaged to some extent in out-of-school employment, please indicate the major purpose of such employment. If the answer to the preceding question was "None", please proceed to the next section.
1) ☐ Added Income 2) ☐ Experience for professional growth 3) ☐ Other _____

SECTION IV. School-Related Activities

13. What is the average amount of time (outside of school) you normally spend each week on preparation for teaching?
1) ☐ None 3) ☐ 6 to 10 hours 5) ☐ 16 to 20 hours
2) ☐ 1 to 5 hours 4) ☐ 11 to 15 hours 6) ☐ More than 20 hours
14. On how many educational committees do you serve outside the regular school hours?
1) ☐ None 3) ☐ 3 or 4 committees
2) ☐ 1 or 2 committees 4) ☐ More than 4 committees

15. How many P. T. A. meetings do you normally attend during the school year?
- 1) ☐ None 3) ☐ 3 or 4 meetings
2) ☐ 1 or 2 meetings 4) ☐ More than 4 meetings
16. How many hours do you normally spend during the school year in home visitations and parent conferences?
- 1) ☐ None 3) ☐ 10 to 24 hours 5) ☐ 50 to 100 hours
2) ☐ 1 to 9 hours 4) ☐ 25 to 49 hours 6) ☐ More than 100 hours
17. How many hours do you normally spend during the school year as a spectator at school athletic contests, musical programs, plays, etc.?
- 1) ☐ None 3) ☐ 10 to 24 hours 5) ☐ 50 to 100 hours
2) ☐ 1 to 9 hours 4) ☐ 25 to 49 hours 6) ☐ More than 100 hours

SECTION V. Non-Professional Activities Involved in Daily Living

18. How many hours a day do you normally spend doing housework?
- 1) ☐ None 3) ☐ 1 or 2 hours 5) ☐ More than 4 hours
2) ☐ Less than 1 hour 4) ☐ 3 or 4 hours
19. How many hours of sleep do you normally have each night?
- 1) ☐ None 3) ☐ 7 to 8 hours
2) ☐ 4 to 6 hours 4) ☐ More than 8 hours
20. How many hours a day, on the average, do you view television?
- 1) ☐ None 3) ☐ 1 or 2 hours 5) ☐ More than 4 hours
2) ☐ Less than 1 hour 4) ☐ 3 or 4 hours
21. How many hours a day, on the average, do you listen to the radio?
- 1) ☐ None 3) ☐ 1 or 2 hours 5) ☐ More than 4 hours
2) ☐ Less than 1 hour 4) ☐ 3 or 4 hours
22. How much time do you normally devote each day to reading non-professional literature, including newspapers, magazines, books, etc.?
- 1) ☐ None 3) ☐ 1 or 2 hours 5) ☐ More than 4 hours
2) ☐ Less than 1 hour 4) ☐ 3 or 4 hours
23. Do you believe that there is enough time, free from professional obligations, to engage in those out-of-school activities in which you are interested? Check one.
- 1) ☐ Definitely yes 3) ☐ Uncertain 5) ☐ Definitely not
2) ☐ Probably yes 4) ☐ Probably not
24. Do you believe that, if you had the choice to make over again, you would decide upon teaching as a career? Check one.
- 1) ☐ Definitely yes 3) ☐ Uncertain 5) ☐ Definitely not
2) ☐ Probably yes 4) ☐ Probably not

American Legion or
Auxiliary
Veterans of Foreign Wars
or Auxiliary
National Guard or military
Reserve
Civil Defense

Boys Club
Dramatic Club
Bridge or other card club
Supper Club
Country Club
Orchestra
Band
Farm

F S

Bowling
Golf
Tennis
Table Tennis
Badminton
Fishing
Hunting
Swimming
Archery
Skeet
Boating
Handball
Horseback Riding
Skating
Target Practice
Horseshoe Pitching

[illegible]

F S

Bowling
Soft Ball
Basketball
Baseball

Wrestling
Baseball
Basketball
Football
Soft Ball
Tennis
Boxing
Racing

Entert: Inment

F S

Movies
Night Clubs
Theater
Dancing
Home Talent Shows
Little Theater
Amusement Parks
Concerts
Boat Cruises

F S

Viewing T. V.
Reading Books
Reading Magazines
Listening to Radio
Listening to Records
Motoring
Window Shopping
Musical Instrument
Playing Cards
Dancing
Picnicking
Visiting Friends

[illegible]

HOBBIES (Continued)

F S

Photography
Collection
Model Building
Sewing
Carving
Raising Pets
Art Painting

F S

Jewelry
Drawing
Household Plants
Gardening or Care of Lawn
Woodworking
Ceramics

SECTION XI. Teachers' Most Frequent Activities

Directions: Please consider all the activities in which you engage during the time school is not officially in session. Please list, in descending order, those three (3) activities which consume the greatest amount of your out-of-school time.

1. _____
2. _____
3. _____

039
RESEARCH REPORT NO. 3

**Professional and Academic Preparation
of Teachers Related to Two Indices
of Teaching Performance**

Lloyd S. Standlee

W. James Popham

**SCHOOL OF EDUCATION
INDIANA UNIVERSITY**

Prepared under Contract 6400

U.S. Office of Education

Department of Health, Education, and Welfare

Lloyd S. Standlee, Principal Investigator

APRIL 1958

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April 1958

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APPENDIX

Sample. The subjects consisted of 200 public school teachers who were 1954 graduates of 24 Indiana teacher-training institutions with standard accreditation for teacher education. This number (200) is the total population of 1954 graduates (Bachelor's Degree) of all Indiana colleges with standard accreditation for teacher education, who were teaching in Indiana public schools in the academic year 1954-55.

An analysis of subjects per type of graduating institution is contained in another report: Study 1, L.D., Popper, M.D., and Marjorie, E. Preparation and Performance of Indiana Teacher-Training Graduates. Research Report No. 1, School of Education, Indiana University, Carmel, IND., U.S. Office of Education, Department of Health, Education, and Welfare, March 1956.

Professional and Academic Preparation of Teachers Related to Two Indices of Teaching Performance

INTRODUCTION

Much is being said today regarding the professional and academic preparation of public school teachers. The newspapers and popular magazines are filled with criticisms and defenses of teacher education. Perhaps the most frequent criticism is that today's teachers are being inadequately prepared in the subjects they teach—science, mathematics, history, etc.

It is being said that education students must take so many professional education (pedagogy) courses that there is no room left for subject-matter preparation. In brief, the public school teacher is being taught how to teach to the exclusion of mastering the subject to be taught, and this, in turn, leads to diluted course offerings in the public schools.

In answer, it is being said that the teaching of children and adolescents is a profession and requires professional training. Academic competency is necessary, but not sufficient. The public school teacher must have, in addition to academic competency, the professional skills that are taught in the professional courses—psychology, methods, philosophy of education, practice teaching, etc. Failure to provide this professional training, it is claimed, might produce deleterious effects upon pupils.

Little of what is being said for or against the preparation of teachers, however, seems to be based upon solid research evidence. One sees, rather, attacks upon straw men, the use of emotionally-toned words, partial truths, etc.

PURPOSE

The purpose of the present investigation was to determine whether the professional and/or academic preparation of teachers is related to their teaching performance.

PROCEDURE

Sample. The subjects consisted of 880 public school teachers who were 1954 graduates of 24 Indiana teacher-training institutions with standard accreditation for teacher education. This number (880) is the total population of 1954 graduates (bachelor's degree) of all Indiana colleges with standard accreditation for teacher education, who were teaching in Indiana public schools in the academic year 1956-57.¹

¹An analysis of subjects per type of graduating institution is contained in another report: Standlee, L.S., Popham, W.J., and Mavrides, E., Preparation and Performance of Indiana Teacher-Training Graduates. Research Report No. 1, School of Education, Indiana University, Contract 6400, U.S. Office of Education, Department of Health, Education, and Welfare, March 1958.

Measures. The indices of professional and academic preparation consisted of credit hours and credit points. Professional preparation was defined as any course in education or psychology. Academic preparation was defined as courses taken in the subject-matter area that the teacher was currently teaching. The academic preparation of only secondary teachers was analysed, since this measure, of course, is not applicable to elementary teachers. The credit hours and credit points were taken from the teachers' undergraduate transcripts.

Credit points were computed by multiplying credit hours by grade weight² and summing. This index combining quantity and quality, was thought to be preferable to the more conventionally used credit point ratio. In the latter index a teacher with 12 hours of A in science would have the same credit point ratio as a teacher with 1 hour of A in science, but the two teachers certainly do not have equal preparation in science. By the same reasoning, the credit point index was also thought to be superior to the credit hour index. A teacher with 12 hours of A in a particular subject-matter area does not have the same preparation as the teacher with 12 hours of D. Nevertheless, the credit hour index was retained, for it has the advantage of complete objectivity, which may be lacking in both credit points and credit point ratio.

The indices of teaching performance consisted of teachers' Minnesota Teaching Attitude Inventory (MTAI) scores and principals' ratings of teachers. The MTAI is claimed by its authors³ to discriminate between those teachers who do, and those who do not have good rapport with their pupils. The principal's rating form, which was constructed locally, was designed to assess a teacher's over-all teacher effectiveness.⁴

All data were obtained by mail. Transcripts were received for all subjects, MTAI scores for 83.9 per cent of subjects, and principals' ratings for 95.1 per cent of subjects.

Analyses. In analysing the data, MTAI scores were grouped into five categories: 150 to 61, 60 to 21, 20 to -19, -20 to -59, and -60 to -150. (A high MTAI score means that the teacher is more likely to have good rapport with his pupils, a low score the converse.) Principals' ratings were grouped into three categories: 100 to 90, 80 to 70, and 60 to 10. (A high rating means that the principal judges a teacher to be superior in over-all teacher effectiveness, a low rating the converse.) Credit hours and credit points were grouped into three or five categories in units of 20, as the range of hours and points indicated. The criterion governing all grouping was that a maximum refinement of classification

² A = 3, B = 2, C = 1, D = 0, E or F = -1.

³ Cook, W.W., Leeds, C.H., and Callis, R. Minnesota Teacher Attitude Inventory. New York: The Psychological Corporation, 1951.

⁴ A copy of the rating form and more detailed description are included in another report: Standlee, L.S., Popham, W.J., and Mavrides, E., op. cit.

be retained while at the same time avoiding a large number of cells with trivial frequencies. Frequency data were analyzed by means of the chi square statistical technique.

Separate statistical analyses were conducted for elementary and secondary teachers, and for the latter, separate analyses were conducted for teachers teaching in only one subject-matter area and for teachers teaching in more than one (multiple) subject-matter area. The importance of the latter separate analyses becomes evident when one considers that a teacher teaching several different subjects may, even though not adequately trained in any one of them, show many more college credits in his teaching areas than will an exceptionally well prepared teacher teaching only one subject.

RESULTS

Neither the professional nor the academic preparation of teachers in the present sample was found to be significantly related to either of two indices of teaching performance--MTAI scores and principals' ratings of overall teaching effectiveness. The data are summarized in Table 1 and are presented in more detail in Tables 2-21 of the appendix.

Inspection of Table 1 indicates that only two analyses out of a possible 20 yielded a relationship between preparation and performance that was significant at the .05 per cent or higher level of confidence, and these two significant relationships tend to lose significance in light of the 18 non-significant relationships.

SUMMARY AND CONCLUSION

In an attempt to produce some objective evidence regarding the current controversy over the preparation of teachers, the professional and academic credit hours and credit points of 880 Indiana public school teachers were related to two indices of teaching performance--MTAI score and principals' ratings of over-all teaching effectiveness. Neither the professional nor the academic preparation of teachers was found to be related to either of the two indices of teaching performance.

It cannot be concluded from the present study that there is no relationship between the preparation of teachers and their subsequent teaching performance, for the two criteria of teaching performance used herein are subject to well-known limitations and certainly are not exhaustive. The present study does suggest, however, an objective approach to the solution of such controversial problems.

Credit Hours
Credit Points
Elementary Teachers

Professional Courses
Credit Hours
Credit Points

7.35

6.43

20.51

¹ Not significant at the .10 level of confidence.

Table 1. Obtained Chi Square Values for the Professional and Academic Preparation of Teachers According to Two Indices of Teaching Performance

Professional and Academic Credit Hours and Credit Points	Chi Square	Degrees of Freedom	Level of Significance
MTAI			
Secondary Teachers			
Professional Courses			
Single Teaching Area			¹
Credit Hours	4.71	8	NS
Credit Points	15.10	16	NS
Multiple Teaching Area			
Credit Hours	11.40	8	NS
Credit Points	10.19	8	NS
Academic Courses			
Single Teaching Area			
Credit Hours	17.81	16	NS
Credit Points	19.48	16	NS
Multiple Teaching Area			
Credit Hours	12.36	16	NS
Credit Points	12.24	16	NS
Elementary Teachers			
Professional Courses			
Credit Hours	6.76	8	NS
Credit Points	10.17	8	NS
PRINCIPALS' RATINGS			
Secondary Teachers			
Professional Courses			
Single Teaching Area			
Credit Hours	1.98	4	NS
Credit Points	7.01	8	NS
Multiple Teaching Area			
Credit Hours	13.55	4	.01
Credit Points	.42	4	NS
Academic Courses			
Single Teaching Area			
Credit Hours	11.34	8	NS
Credit Points	18.26	8	.05
Multiple Teaching Area			
Credit Hours	8.47	8	NS
Credit Points	7.45	8	NS
Elementary Teachers			
Professional Courses			
Credit Hours	6.43	8	NS
Credit Points	10.53	8	NS

¹ Not significant at the .10 level of confidence.

Table 2. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Hours in Professional Courses According to their NTAI Scores

Professional Credit Hours	NTAI Scores					Total
	150 to 61	60 to 23	20 to -19	-20 to -59	-60 to -150	
<20		7	18	13	1	39
20-40	5	22	27	33	5	112
41-60		4	4	5		13
Total	5	33	69	50	6	163

APPENDIX

Frequency Distribution Tables and Obtained Chi Square

Values for Twenty Separate Analyses of the

Preparation and Performance of Teachers

Table 3. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Hours in Professional Courses according to their NTAI Scores

Professional Credit Hours	NTAI Scores					Total
	150 to 61	60 to 23	20 to -19	-20 to -59	-60 to -150	
<20		2	3	7		12
20-40	2	6	15	13	3	39
41-60	3	15	30	15	1	64
61-80		1	13	10	1	25
81+			8	4		12
Total	5	33	69	50	6	163

$$\chi^2 = 15.10 \quad df = 16 \quad p \text{ greater than } .10$$

Table 2. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Hours in Professional Courses According to their NTAI Scores

Professional Credit Hours	NTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150	
-20		7	18	13	1	39
21-40	5	22	47	33	5	112
41-		4	4	4		12
Total	5	33	69	50	6	163

$$\chi^2 = 4.71 \quad df = 8 \quad p \text{ greater than } .10$$

Table 3. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Points in Professional Courses according to their NTAI Scores

Professional Credit Points	NTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150	
-20		1	3	7		11
21-40	2	6	15	13	3	39
41-60	3	18	30	16	2	69
61-80		4	13	10	1	28
81-		4	8	4		16
Total	5	33	69	50	6	163

$$\chi^2 = 15.10 \quad df = 16 \quad p \text{ greater than } .10$$

Table 4. Frequency Distribution of Multiple-Teaching-Area Secondary Teachers' Credit Hours in Professional Courses According to their MTAI Scores

Professional Credit Hours	MTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150	
-20	1	10	4	12	1	28
21-40	5	12	27	14	5	63
41-		1	1	1		3
Total	6	23	32	27	6	94

$$\chi^2 = 11.40 \quad df = 8 \quad p \text{ greater than } .10$$

Table 5. Frequency Distribution of Multiple-Teaching-Area Secondary Teachers' Credit Points in Professional Courses According to their MTAI Scores

Professional Credit Points	MTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150	
-20		1	4	4		9
21-40		10	9	12	3	34
41-	6	12	19	11	3	51
Total	6	23	32	27	6	94

$$\chi^2 = 10.19 \quad df = 8 \quad p \text{ greater than } .10$$

Table 6. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Hours in Academic Courses According to their MTAI Scores

Academic Credit Hours	MTAI Scores					Total
	150 to 61	60 to 20	20 to -19	-20 to -59	-60 to -150	
-20		6	2	4	1	13
21-40		8	19	15	2	44
41-60	4	12	23	15	3	57
61-80	2	8	18	8		36
81-		2	5	7		14
Total	6	36	67	49	6	164

$$\chi^2 = 17.81 \quad df = 16 \quad p \text{ greater than } .10$$

Table 7. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Points in Academic Courses According to their MTAI Scores

Academic Credit Points	MTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150	
-20		2	1	2	1	6
21-40		4	6	3		13
41-60		2	7	8	1	18
61-80		8	12	5	3	28
81-	6	20	41	31	1	99
Total	6	36	67	49	6	164

$$\chi^2 = 19.48 \quad df = 16 \quad p \text{ greater than } .10$$

Table 8. Frequency Distribution of Multiple-Teaching-Area Secondary Teachers' Credit Hours in Academic Courses According to their NTAI Scores

Academic Credit Hours	NTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150	
-20		1	1	2	1	5
21-40	1	9	7	9	1	27
41-60	1	3	9	6	3	22
61-80	3	6	7	4		20
81-	1	4	7	6	1	19
Total	6	23	31	27	6	93

$$\chi^2 = 12.36 \quad df = 16 \quad p \text{ greater than } .10$$

Table 9. Frequency Distribution of Multiple-Teaching-Area Secondary Teachers' Credit Points in Academic Courses According to their NTAI Scores

Academic Credit Points	NTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-20 to -59	-60 to -150	
-20		1				1
21-40		3	5	4	2	14
41-60	1	2	6	5	1	15
61-80		6	3	5		14
81-	5	11	17	13	3	49
Total	6	23	31	27	6	93

$$\chi^2 = 12.24 \quad df = 16 \quad p \text{ greater than } .10$$

Table 10. Frequency Distribution of Elementary Teachers' Credit Hours in Professional Courses According to their MTAI Scores

Professional Credit Hours	MTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-19 to -59	-60 to -150	
-20	1	7	45	27	6	86
21-40	5	8	62	52	7	134
41-	4	20	115	69	20	228
Total	10	35	222	148	33	448

$$\chi^2 = 6.76 \quad df = 8 \quad p \text{ greater than } .10$$

Table 11. Frequency Distribution of Elementary Teachers' Credit Points in Professional Courses According to their MTAI Scores

Professional Credit Points	MTAI Scores					Total
	150 to 61	60 to 21	20 to -19	-19 to -59	-60 to -150	
-20	43	19	16	3	6	87
21-40	56	38	22	9	8	133
41-	120	60	25	16	7	228
Total	219	117	63	28	21	448

$$\chi^2 = 10.17 \quad df = 8 \quad p \text{ greater than } .10$$

Table 12. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Hours in Professional Courses According to their Principals' Ratings

Professional Credit Hours	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 50	
-20	11	20	14	45
21-40	34	42	37	113
41-	3	8	7	18
Total	48	70	58	176

$$\chi^2 = 1.96 \quad df = 4 \quad p \text{ greater than } .10$$

Table 13. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Points in Professional Courses According to their Principals' Ratings

Professional Credit Points	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 50	
-20	2	6	2	10
21-40	9	20	18	47
41-60	26	26	23	75
61-80	8	9	9	26
81-	3	9	6	18
Total	48	70	58	176

$$\chi^2 = 7.01 \quad df = 8 \quad p \text{ greater than } .10$$

Table 14. Frequency Distribution of Multiple-Teaching-Area Secondary Teachers' Credit Hours in Professional Courses According to their Principals' Ratings

Professional Credit Hours	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 50	
-20	12	6	10	28
21-40	17	21	31	69
41-		6	1	7
Total	29	33	42	104

$$\chi^2 = 13.55 \quad df = 4 \quad p \text{ less than } .01$$

Table 15. Frequency Distribution of Multiple-Teaching-Area Secondary Teachers' Credit Points in Professional Courses According to their Principals' Ratings

Professional Credit Points	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 50	
-20	4	3	5	12
21-40	10	13	16	39
41-	15	17	21	53
Total	29	33	42	104

$$\chi^2 = 0.42 \quad df = 4 \quad p \text{ greater than } .10$$

Table 16. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Hours in Academic Courses According to their Principals' Ratings

Academic Credit Hours	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 50	
-20	3	4	7	14
21-40	11	18	20	49
41-60	23	21	14	58
61-80	10	16	11	37
81-	2	10	5	17
Total	49	69	57	175

$$\chi^2 = 11.34 \quad df = 8 \quad p \text{ greater than } .10$$

Table 17. Frequency Distribution of Single-Teaching-Area Secondary Teachers' Credit Points in Academic Courses According to their Principals' Ratings

Academic Credit Points	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 50	
-20	2	2	7	11
21-40	5	4	7	16
41-60	7	4	7	18
61-80	6	13	11	30
81-	34	16	25	75
Total	49	69	57	175

$$\chi^2 = 18.26 \quad df = 8 \quad p \text{ less than } .05$$

Table 18. Frequency Distribution of Multiple-Teaching-Area Secondary Teachers' Credit Hours in Academic Courses According to their Principals' Ratings

Academic Credit Hours	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 10	
-20	3	1	1	5
21-40	7	10	8	25
41-60	5	11	11	27
61-80	8	4	13	25
81-	4	7	8	19
Total	27	33	41	101

$$\chi^2 = 8.47 \quad df = 8 \quad p \text{ greater than } .10$$

Table 19. Frequency Distribution of Multiple-Teaching-Area Secondary Teachers' Credit Points in Academic Courses According to their Principals' Ratings

Academic Credit Points	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 10	
-20			1	1
21-40	5	2	5	12
41-60	5	8	3	16
61-80	4	6	8	18
81-	13	17	24	54
Total	27	33	41	101

$$\chi^2 = 7.45 \quad df = 8 \quad p \text{ greater than } .10$$

Table 20. Frequency Distribution of Elementary Teachers' Credit Hours in Professional Courses According to their Principals' Ratings

Professional Credit Hours	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 50	
-20	20	7	6	33
21-40	69	53	27	149
41-60	115	60	45	220
61-80	20	8	7	35
81-	4	4	1	9
Total	228	132	86	446

$$\chi^2 = 6.43 \quad df = 8 \quad p \text{ greater than } .10$$

Table 21. Frequency Distribution of Elementary Teachers' Credit Points in Professional Courses According to their Principals' Ratings

Professional Credit Points	Principals' Ratings			Total
	100 to 90	80 to 70	60 to 50	
-20	7	8	5	20
21-40	18	9	3	30
41-60	25	22	16	63
61-80	60	37	17	114
81-	118	56	45	219
Total	228	132	86	446

$$\chi^2 = 10.53 \quad df = 8 \quad p \text{ greater than } .10$$

039

RESEARCH REPORT NO. 4

**Summary of Studies Accomplished Under a Research
Project Concerning the Preparation and
Performance of Indiana Teachers**

Lloyd S. Standlee

**SCHOOL OF EDUCATION
INDIANA UNIVERSITY**

Prepared under Contract 6400

U.S. Office of Education

Department of Health, Education, and Welfare

Lloyd S. Standlee, Principal Investigator

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INTRODUCTION

This is the final report of a series of studies accomplished under contract with the U.S. Office of Education, Department of Health, Education, and Welfare. The purpose of the studies was to investigate the preparation and performance of graduates of teacher-education programs in the state of Indiana. The purpose of the present report is to summarize in one source the various studies resulting from the research project.

PROCEDURE

Sample. The sample, on which all studies were based, consisted of 880 public school teachers. This was the total population of 1954 graduates (bachelor's degree) of all 24 Indiana colleges and universities with standard accreditation for teacher education, who were teaching in Indiana public schools in the 1956-57 academic year. The sample was determined on the basis of records of the State Department of Public Instruction.

Data sources. The data sources consisted of (1) the Minnesota Teacher Attitude Inventory (MTAI), (2) an Out-of-School Activities Questionnaire, (3) a Teacher Ranking Form, (4) academic transcripts, and (5) state department records.

The MTAIs and questionnaires were mailed to teachers. The Teacher Ranking Forms were mailed to principals (or other supervisory persons) of the teachers. The academic transcripts were requested by mail from colleges from which the teachers had been graduated. Certain background data were transcribed from records of the State Department of Public Instruction.

The percentage of returns was 84 per cent for data supplied by teachers (MTAI and questionnaire), 95 per cent for data supplied by principals (ranking form), and almost 100 per cent for data supplied by colleges (transcripts).

RESULTS

Results of the various studies, together with a brief description of the purpose and procedure of each study, will be summarized for each of the below listed references:

1. Popham, W.J., The Relationship Between Out-of-School Activities of Teachers and Their Attitudes Toward Pupil-Teacher Relations, paper read at AERA convention, St. Louis, Missouri, February 25, 1958, 4pp.

This was a preliminary report of the study summarized in reference No. 5.

2. Standlee, L.S., The Professional Preparation and Performance of Graduates from Indiana Teacher-Training Institutions, paper read at AERA convention, St. Louis, Missouri, February 25, 1958, 5pp.

This was a preliminary report of the study summarized in reference No. 4.

3. Standlee, L.S. and Popham, W.J., The Case of the Missing New Teachers, Indiana Teacher, Volume 102, No. 7, p. 316, March, 1958.

In the process of determining the sample for the over-all research project, it became apparent that a little additional effort might produce some interesting statistics regarding the supply and retention of public school teachers in Indiana. Accordingly, data were obtained regarding (1) the number of graduates from the 24 Indiana colleges and universities with standard accreditation for teacher education in the 1954 calendar year who were qualified to teach, (2) the number of these graduates who had teaching experience prior to receipt of the bachelor's degree, and (3) the number of these graduates teaching in Indiana public schools three years later (the 1956-57 academic year).

The 24 Indiana colleges and universities¹ graduated 2,332 teachers in 1954. Only 37.5 per cent of these graduates were teaching in Indiana three years later. Of the original 2,332 graduates only 1,954 were potential new teachers, i.e., had not taught prior to receipt of the bachelor's degree. Of this latter number, only 29.7 per cent were teaching in Indiana three years later. Also, it was found that more graduates leave Indiana to teach than come from other states to teach in Indiana.

It was concluded that Indiana cannot meet the demand for public school teachers by simply graduating more people qualified to teach. The solution would seem to be, rather, to increase the holding power of the Indiana public schools.

4. Standlee, L.S., Popham, W.J., and Mavrides, E., Preparation and Performance of Indiana Teacher-Training Graduates, Research Report No. 1, School of Education, Indiana University, Contract 6400, U.S. Office of Education, Department of Health, Education, and Welfare, March, 1958, 61 pp.

This study was directly relevant to the purpose of the contract proposal, i.e., to determine (1) whether graduates of different sizes and types of teacher-education institutions have a different preparation for teaching, and (2) whether there are differences in the professional performance of graduates of different sizes and types of teacher-education institutions.

The measures of teacher preparation consisted of credit hours and credit points in various courses and combinations of courses. These were obtained by performing a content analysis of undergraduate transcripts. The measures of teacher performance consisted of MTAI scores and principal's ratings on the Teacher Ranking Form. Size and type of graduating institution were: large public (19,874 to 13,776 students), small public (4,362 to 2,841 students), large private (3,733 to 1,974 students), and small private (961 to 205 students). Measures were also taken of certain background factors prior to entering the graduating institution and of current teaching background factors.

¹This does not include institutions with annual accreditation for teacher education.

It was found that there were many slight differences in the preparation and performance of graduates of different types and sizes of teacher-education institutions. There were also differences in certain background dimensions, both current and prior to entering the graduating institution. There was, however, no systematic trend for these differences.

It was concluded that, though these differences existed, they were not sufficiently systematic, nor were the two indices of teacher performance sufficiently inclusive, to warrant the conclusion that any one size or type of teacher-education institution is producing better teachers.

5. Popham, W.J., Out-of-School Activities of Teachers as Related to an Index of Their Professional Performance, Research Report No. 2, School of Education, Indiana University, Contract 6400, U.S. Office of Education, Department of Health, Education, and Welfare, March, 1958, 102 pp.

As an adjunct to the above study, the out-of-school (leisure time) activities of teachers were related to one index of teacher performance, attitude toward pupil-teacher relations, as indicated by MTAI score. The only additional initial procedure necessary for the accomplishment of this study was the construction of an Out-of-School Activities Questionnaire and its inclusion in the materials being mailed to teachers. The study was also submitted in partial fulfillment of the requirements for the Doctor of Education degree in the School of Education, Indiana University, June 1958.

The purpose of the study was to supply evidence needed to evaluate the practice of using a teacher's out-of-school participation record as a criterion in the selection of job applicants for teaching positions, and to evaluate statements in teacher education textbooks to the effect that certain leisure time activities serve as a means of improving a teacher's professional performance.

Attendance at professional meetings, local educational organization meetings, and Parent-Teacher Association meetings; number of professional books and periodicals read; time spent viewing television, doing housework, as a spectator at school events, and in home visitations and parent conferences; participating in religious organizations, service organizations, professional organizations, and hobbies; and membership on educational committees were all significantly related to teachers' attitudes toward pupil-teacher relations (MTAI scores).

Teachers' sex, instructional level, and satisfaction with teaching were also significantly related to attitude toward pupil-teacher relations.

Current enrollment in college courses for credit; out-of-school employment; purpose of out-of-school employment; amount of nightly sleep; time spent listening to the radio, preparing for teaching, and reading non-professional literature; participation in military-patriotic organizations, youth groups, fraternal orders, relief-welfare organizations, leisure organizations, team sports, individual sports, spectator sports,

commercial entertainment, and non-commercial entertainment were not significantly related to teachers' attitudes toward pupil-teacher relations.

It was concluded that while some out-of-school activities, particularly those of a professional nature, were related to teacher attitude, the majority of a teacher's out-of-school activities were not.

6. Standlee, L.S. and Popham, W.J., Professional and Academic Preparation of Teachers Related to Two Indices of Teaching Performance. Research Report No. 3, School of Education, Indiana University, Contract 6400, U.S. Office of Education, Department of Health, Education, and Welfare, April, 1958, 17 pp.

When it became evident that there were no systematic differences in the undergraduate preparation of graduates of different sizes and types of graduating institution (reference No. 4 above), it was decided to pool the teachers of all institutions for an analysis of the relationship between professional and/or academic preparation and two indices of teaching performance, MTAI scores and principals' ratings. It was thought that such an analysis might produce some objective evidence regarding the current controversy over the preparation of teachers, i.e., whether teachers are getting too many courses in professional education to the exclusion of mastering the subject matter to be taught.

In 20 separate analyses of professional and academic credit hours and credit points, as related to the two indices of teacher performance, only two analyses yielded a relationship that was significant at the .05 per cent or higher level of confidence (chi square). Thus, neither the critic nor the defender of the preparation of public school teachers can gain support from the present study. It was suggested, however, that such relationships might be obtainable with better and/or more exhaustive criteria of teacher performance.

7. Popham, W.J. and Standlee, L.S., Out-of-School Activities and Professional Performance of Teachers, Bulletin of the School of Education, Indiana University, Volume 34, No. 4, July, 1958, 38 pp.

This report is a condensation of the data in reference No. 5 above, combined with a separate analysis of the relationship between out-of-school activities of teachers and principals' ratings of teacher performance.²

² The present Research Report series, Nos. 1-4 inclusive, has a limited circulation, including only the U.S. Office of Education and such persons or agencies as request information regarding findings of the research project. In three instances (references No. 7, 10, 12), data of these reports have been summarized and submitted for publication in professional journals. In other instances (references No. 3, 7, 8, 9, 11), additional data analyses, not appearing in the Research Report series, have been submitted for journal publication.

The two indices of professional performance (MTAI scores and principals' ratings) were found to yield differing patterns of relationships with teacher's out-of-school activities. Activities most consistently related to MTAI scores were of a professional nature, e.g., membership on educational committees, reading professional books and periodicals, attendance at educational meetings. Of 14 activities significantly related to MTAI scores, nine were of a professional nature. Principals' ratings were not consistently related to teachers' professional out-of-school activities. Of 10 activities significantly related to principals' ratings only three were of a professional nature.

On the other hand, principals' ratings appeared to be more consistently related to non-professional organization and sports activities than were MTAI scores. Of 10 activities significantly related to principals' ratings, six represented teachers' participation in non-professional organization and sports activities. Of 14 activities significantly related to MTAI scores, only two represented teachers' participation in non-professional organization and sports activities.

It was concluded that teachers' performance, as measured by the MTAI, is related to the professional out-of-school activities of teachers; that teachers' performance, as measured by principals' ratings, is related to the non-professional organization and sports out-of-school activities of teachers; and, directly related to these two conclusions, that the MTAI and principals' ratings assess different dimensions of teachers' professional performance.

8. Standlee, L.S. and Popham, W.J., Participation in Leisure Time Activities as Related to Selected Vocational and Social Variables, Journal of Psychology, in press.

The primary purpose of the study of out-of-school activities of teachers was to relate the extent of participation in these activities to the professional performance of teachers. This was accomplished in the above studies (references No.5,7). The purpose of the present study was to analyze relationships that might exist between leisure time activity and five vocational and social variables that might be confounded with the former relationships. The five variables were teachers' sex, marital status, teaching level, salary, and type of graduating college.

The variables most consistently related to teachers' leisure activities were sex, teaching level, and salary. Female subjects reported greater participation in school-related, organization, entertainment, and hobby activities. Male subjects reported greater participation in sports activities. Married subjects reported greater participation in daily living and hobby activities. Single subjects reported greater participation in entertainment activities. Subjects in higher teaching levels reported greater participation in out-of-school employment, daily living, and sports activities. Subjects in lower teaching levels reported greater participation in profession-related, school-related, organization, entertainment, and hobby activities. Subjects with higher salaries reported greater participation in profession-related, school-related, daily living, organization, and hobby activities. No systematic relationships were found to exist between

the type of college from which subjects had been graduated and the types of leisure time activities in which subjects participated.

9. Standlee, L.S. and Popham, W.J., The MTAI as a Predictor of Over-All Teacher Effectiveness, Journal of Educational Research, in press.

It was found in another analysis (reference No. 7 above) that the MTAI and principals' ratings assess slightly different dimensions of teachers' professional performance. This does not, however, preclude the possibility that MTAI scores and principals' ratings of over-all teacher effectiveness are related. If this could be demonstrated, the predictive use of the MTAI would be extended beyond simply predicting the type of social atmosphere a teacher will maintain in the classroom.

MTAI scores were grouped into five intervals; principals' ratings were grouped into three intervals. The relationship between the two variables was tested for significance by means of the chi square statistic.

A statistically significant relationship between the two measures was found ($\chi^2 = 16.17$, $df = 8$, $p < .05$). Inspection of the data revealed that the relationship was positive, i.e., teachers scoring higher on the MTAI tended to receive higher ratings from their administrators.

It was concluded that the MTAI may be utilized not only as an index of the type of social atmosphere a teacher will maintain in the classroom, but also, with caution, as an index of a teacher's over-all teaching performance.

10. Standlee, L.S. and Popham, W.J.,³ Preparation and Performance of Teachers, unpublished manuscript.

This is a combination of data in Research Reports No. 1 and 3 (reference No. 4,6). The purpose was simply to make the data available in a more widely circulated source. (See footnote No.2)

11. Popham, W.J. and Standlee, L.S., "Snap Courses"—Says Who?, unpublished manuscript.

It is currently the fashion to attack professional education, the following statement being not at all atypical: "It is no secret . . .⁴ that near-failing students can get straight A's in education courses."

³In this and the next two references, unpublished manuscript refers to manuscripts that have been prepared and submitted to professional magazines, but no decision has been reached concerning their acceptability. Waiting for such decisions, however, would delay the present final report.

⁴Letter to the editor, Life, Vol. 44, No. 16, P. 16, April 21, 1958.

If this were true, one would expect the college grade point averages (GPA) of teachers to be higher in their professional courses than in their non-professional courses. To test this hypothesis, the transcripts already available were analyzed to obtain for each teacher in the present sample (1) a GPA for undergraduate professional courses (education and psychology) and (2) a GPA for undergraduate non-professional courses (all courses other than education and psychology). For secondary teachers only, a GPA was obtained for those non-professional undergraduate courses related to their current teaching (subject-matter) areas.

The mean GPA for professional, non-professional, and teaching area courses was equal to a "B minus". There were slight differences in actual GPA's, but they were not statistically significant (t-test for correlated data.)

The results of the present analysis, then, cast serious doubts on the veracity of charges that prospective teachers can earn significantly higher grades in professional education courses than they can in other courses, i.e., that professional educators are guilty of "soft" grading practices.

12. Standlee, L.S. and Popham, W.J., The Teacher Education Controversy--A Modus Operandi, unpublished manuscript.

The results of the research reported in reference No.6 above were used to illustrate a research approach to controversial educational problems. It was suggested that controversies such as the current one concerning the education of teachers, could best be solved, not through emotionalized argumentation, but through the accumulation of sufficient research evidence.